BOSTON'S OWN COMPUTER NEWSMAGAZINE SINCE 1986

COMPUTER Currents

Volume 7 Number 7 MONTHLY July 1992

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Online Advances!

Superfast Hardware, High Content Services

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BBSs & Free Speech: What Are Your Rights?

MACINTOSH

Two State-Of-The-Art Mac Fax/Modems

QuickTime Starter Kit

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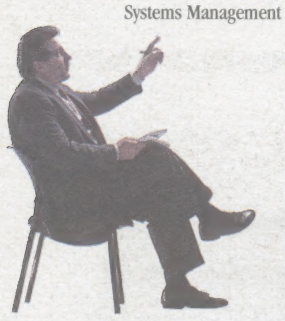

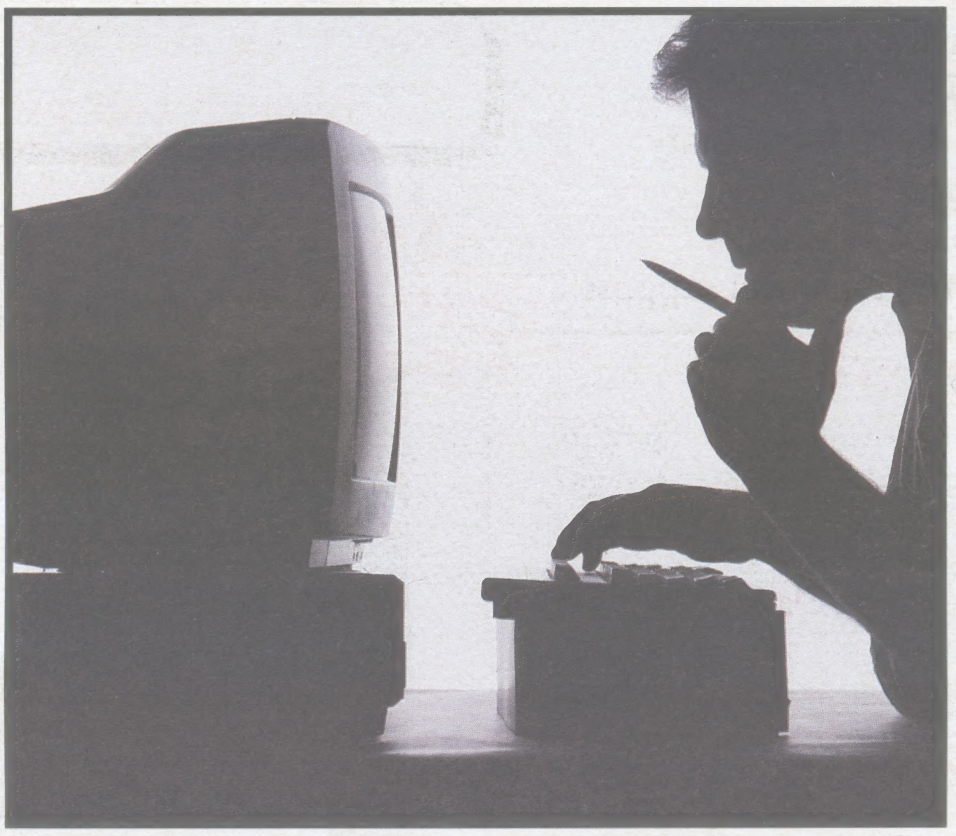

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PLENARY SESSION
"GUIs . . . And Then What?"
Ed Bott, Editor-in-Chief, *PC/Computing*

DEVELOPER'S KEYNOTE
"Success Is An Object"
Eugene Wang, Vice President, Borland International

STRATEGY BRIEFINGS
IBM: Fernand Sarrat, Assistant General Manager, Personal Systems Market Development
Microsoft: Dwayne Walker, Director, Windows NT & Networking Products
Lotus: John Landry, Vice President

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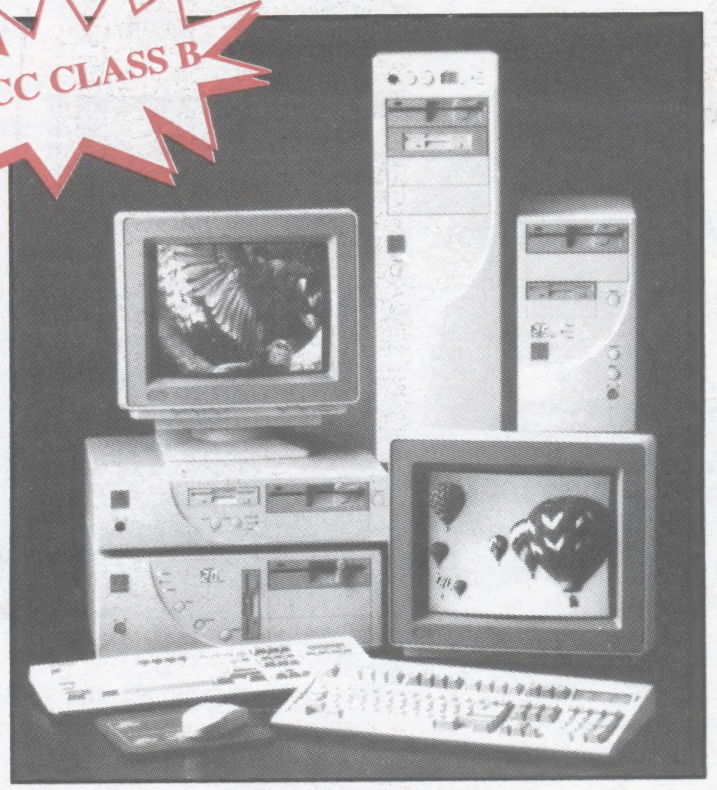

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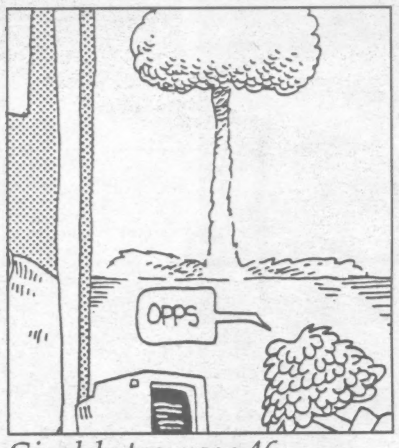

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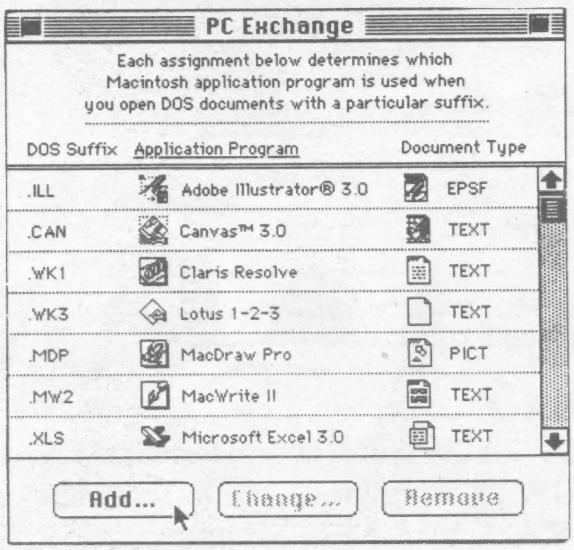

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COMPUTER Currents®

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NUMBER 7
JULY 1992

ONLINE ADVANCES! 18

Pick up helpful shareware and product updates, chat with other users about your favorite hobby, get airline tickets for your next vacation, and check your mailbox for the latest from your friends and associates — all while relaxing on your duff. Our cover story looks at the latest high-speed fax/modem technology that lets you perform these armchair miracles, and on page 22, we'll show you just what some of the major commercial online services have to offer.

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NOVEMBER	OCTOBER 12
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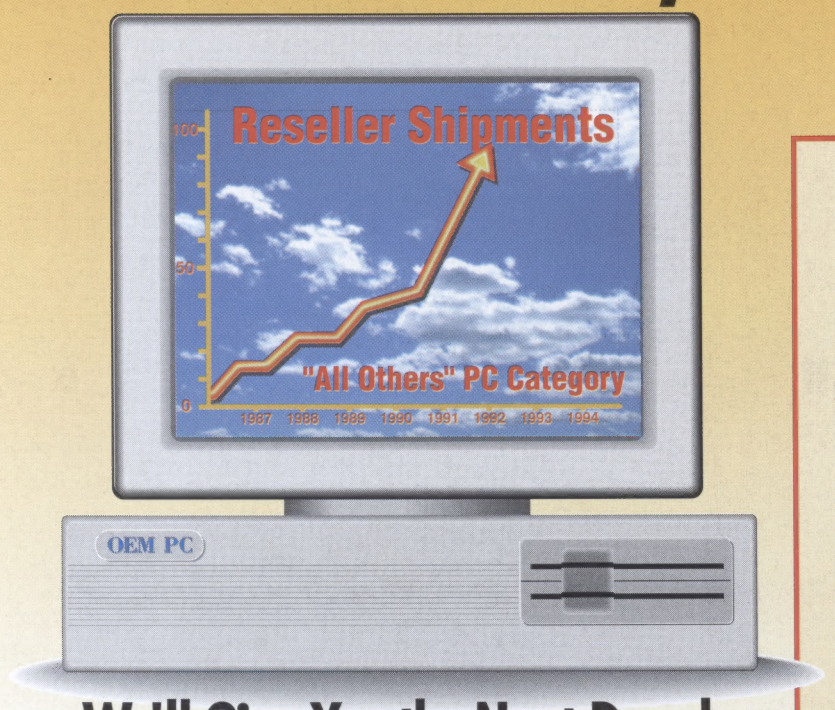

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- Mass Storage products
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- Applications software
- Computers
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Monday Sept. 21	**Keynote Speaker: Gordon Campell, CEO of Chip & Technologies**
A1	Compatibles PC's for the next 10 years: Non-Intel CPU's come of age
A2	Marketing PC's in a commodity/price war environment
A3	Build or buy- resellers look at the new "OEM" environment
A4	Trade and marketing between the USA and Hungary Chairperson: Andy Hadju, Control, Inc.
Tuesday Sept. 22	**Keynote Speaker: VP of IBMs OS/2 OEM Division**
B1	East-West Partnership
B2	Creating Company & brand identity in a crowded marketplace
B3	Trade and marketing between the USA and Yugoslavia Chairperson: Dejan Veselinovic, Racunari Magazine
B4	Channel strategies for technology entrepreneurs
Wednesday Sept. 23	**Keynote Speaker: Richard Fade, Dir. of OEM Marketing for Microsoft**
C1	Beyond the Windows PC: Alternative Operating Environments
C2	Emerging technologies for the next ten years
C3	FCC Regulations and Compliance with Federal Agencies
C4	Notebook Revolution: Nomadic computing comes of age
Thursday Sept. 24	**Keynote Speaker: Industry Specialist**
D1	Where is the next market opportunity for PC's?
D2	China's PC market: What's it mean for the USA?
D3	Market Strategies for VAR/Consultants
D4	Taiwan PC Industry: The Next Ten Years

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- B10 ☐ Other _____

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- C6 ☐ Support Staff
- C7 ☐ Tech Staff
- C8 ☐ Other _____

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- D3 ☐ 50 - 99
- D4 ☐ 100 - 499
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FEATURE

Electronic Bulletin Boards And Free Speech

What Are Your Rights?

By Marguerite Zientara

"Congress shall make no law... abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the government for a redress of grievances."

— First Amendment to the U.S. Constitution (1791)

It is crucial that we begin to address the serious issues surrounding electronic bulletin boards (BBSs) and free speech, say the civil libertarians of the personal computer industry. "We're on the cusp of going one way or the other — toward liberty or totalitarianism," believes Harvey Silverglate, an attorney with Silverglate & Good (Boston).

Speaking at a Boston Computer Society (BCS) general meeting recently, Silverglate, who serves as litigation counsel for the Electronic Frontier Foundation (EFF; Cambridge, Mass.), called BBSs "the greatest challenge yet to the government's desire to know everything, including things that are none of its business."

Although the EFF represents "a very small cadre of people who are worried about these issues from a citizen's point of view," he pointed out, "the government has an army of people on the other side."

Citing numerous well documented ways in which the government has tracked some of its citizens — including reading personal mail and wiretapping — Silverglade observed, "Now, suddenly there's a technology that threatens to get out of hand. Millions of people are communicating electronically, and the government can't possibly keep track of it.

"The challenge is one the government isn't going to take lying down," warned Silverglade. "This battle will be going on for the next 10 to 20 years, and it will revolve around the government's attempt to get a handle on this very democratic, national town meeting."

Big Brother May Be Reading You

The government has already made some decisions about its own role. In a 1985 memo obtained under the Freedom of Information Act, the FBI stated it would monitor BBSs on a case-by-case basis, reported Marc Rotenberg, director of the Washington, D.C. office of Computer Professionals for Social Responsibility (CPSR), at the BCS meeting. "We have no indication of what factors trigger such monitoring," he added.

Believing that such activities go directly against the First Amendment, CPSR has filed a lawsuit in Washington against the FBI. CPSR is also suing several other agencies for what it believes are similar infractions, including the National Security Council, the Department of the Treasury, and the Internal Revenue Service.

"This battle will revolve around the government's attempt to get a handle on this very democratic, national town meeting."

Although the CPSR historically has been mostly concerned with the increasing role that computers play in the threat of nuclear war, it has increased its work in the area of privacy and civil liberties in the last two years, explained Gary Chapman, director of its Cambridge, Mass., office, in a recent interview.

In July 1990, CPSR received its largest grant ever: $275,000 from the then-new Electronic Frontier Foundation. It was EFF's first official action. EFF was formed in April 1990 by Lotus Development Founder Mitch Kapor, Apple Computer co-founder Steve Wozniak and a third anonymous contributor. Each donated a six-figure sum to get the foundation off the ground.

Active since the late 1970s, BBSs suddenly, in 1990, became the target of a government crackdown on hackers. Kapor and Wozniak took action following the watershed Steve Jackson Games case, in which Secret Service agents stormed Steve Jackson Games, Inc. in Austin, Texas, and confiscated thousands of dollars worth of hardware and software.

It was the Secret Service's contention that an upcoming Steve Jackson Games computer game, "GURPS Cyberpunk," was essentially a "manual for computer crime." No charges were ever filed, however, and GURPS Cyberpunk is now commercially available.

"Throughout 1990, law enforcement activities... were, in fact, seizing the computer systems of innocent parties, and shutting down bulletin boards used by hundreds of innocent people," wrote Mitch Kapor in the second issue of EFF's newsletter, *Effector*. "These actions were depriving many of their legitimate rights under the Constitution, and chilling free expression. The EFF was formed in response to these injustices."

BBS = Free Speech

Although the vast majority of the U.S. population has yet to catch on, millions of Americans regularly log-in to special interest BBSs to exchange ideas, network, debate, and just plain argue.

On CompuServe, for example, members can take part in dozens of forums that permit "knock-down, drag-out analysis and argument of issues to a depth and with thought not seen elsewhere," wrote Christopher J. Galvin in *CompuServe Magazine* last year. "A small, swirling undercurrent of democratic expression... is slowly beginning to surface," he observed.

More recently, as the worst urban rioting since the 1960s electrified Los Angeles and horrified the rest of the nation, many online services set up special forums dedicated to presenting up-to-the-minute information, including eyewitness accounts, local news updates, and tips on which neighborhoods to avoid and which routes to take to safety.

This type of wide-ranging, instanta-

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neous, free exchange of ideas is possible solely through personal computer and communications technology — the truest democratizing vehicle ever made available to mankind and, some feel, the last bastion of truly free speech in the world.

"Bulletin boards give individuals who are not financially well-to-do the power to reach a large audience at low cost," Tom Hemnes, an attorney with Foley, Hoag & Eliot (Boston), told the BCS. "There's no other way for them to do it," he noted, "not through newspapers, magazines, or the broadcast media."

Innocents, Beware!

Precisely because BBSs offer users the possibility of instantaneous, anonymous communication with a wide audience, they also offer a perfect opportunity for someone intent on malicious deception.

The recent case of Michael T. Austin of Framingham, Mass., underscores that fact all too well. Austin used several BBSs to "make friends" online with two local boys, aged 12 and 15, whom he lured separately to rendezvous, then raped.

The 34-year-old divorced father of two pleaded guilty on May 27 to 11 charges, including three counts of child rape and four counts of showing or attempting to show adult videos and computer printouts of sexually explicit images to minors.

Austin, who had previous child molestation convictions in Massachusetts and New Hampshire dating back to 1978, was sentenced to 20-30 years in prison. He must serve at least 10 years before becoming eligible for parole.

Of course, one cannot blame the BBS; Austin could have met the boys in any number of ways. "We really try to impress upon parents to have an awareness of whom their children may be communicating with on bulletin boards, and to remind them that these people are still strangers," advised Jill Reilly, a spokeswoman for Middlesex County District Attorney Thomas Reilly, who handled the case.

"Unfortunately, it's like a pen-pal situation, where the computer quickly lets a user feel he or she really knows the other person," Reilly observed in a telephone interview. "But it's the parents' obligation to make sure their kids aren't going out and meeting people whom they probably would never talk to if they saw them on the street or met them at a bus stop."

The Argus Computerized Exchange — one of the BBSs misused by Michael Austin — includes in its rules a cautionary statement against meeting in person anyone a user might befriend online. "We've had that warning on for quite awhile but unfortunately people don't always read the rules and they certainly don't always follow them," says Pam Morrison, the systems operator (sysop) for Argus, which is run by Computer-Based Communications (Lexington, Mass.).

"We try as best we can to protect our users with a thorough verification system for new users," Morrison said in a recent interview. In spite of Argus' stringent verification process, a determined sociopath can sometimes get through.

Michael Austin was, in fact, removed from the board after several complaints were made about him. "Unfortunately, he came back with some fake IDs to get accounts under different names," Morrison said.

"Bulletin boards give individuals who are not financially well-to-do the power to reach a large audience at low cost."

"We were all very upset by the Austin case, and we cooperated with the police in the matter, but in the end a BBS is just a means of communication and cannot be held responsible for the morality of its users.

"Parents should be the ones to monitor what the kids are doing," she added, "because you really don't know whom you're talking to when you're talking online."

What Is the Role of the Sysop?

The disturbing Austin case raises other issues of freedom and control regarding the role of the sysop. Is it the responsibility of the sysop to read everything that goes out on his or her BBS? Should the sysop pass judgment on "pornographic" material or "criminal" activity? Is the sysop liable in the case of copyright violations or personal defamations that occur on the BBS?

"It's unsettling to bulletin board operators that there are no clearcut answers," Silverglate observed. "It's all very vague, and it's in the government's interest to keep it vague."

He cited what he feels is a parallel situation on Wall Street. "For 10 years, there's been a debate on the definition of 'insider trading,'" he noted. "The Securities and Exchange Commission (SEC) is against having a definition because the government's power derives largely from keeping people nervous and self-censoring and, therefore, very conservative. I'm afraid that's what's going on here. They're out to keep you off-balance."

The attorneys speaking before the BCS agreed that the more control a sysop has over a system, the more likely he or she is to be liable. "We're not suggesting sysops should use great care," Silverglate said. "If they do, they're more responsible [legally]."

Argus Stands By Free Speech

Argus' policy is to exclude from the BBS anything relating to illegal activity. "We do not allow software piracy, although some boards do," Morrison says. "We don't allow child pornography. We don't allow anyone under 18 into our adult area. We don't want anything illegal anywhere near our system, so anyone posting that kind of material would be open to scrutiny."

Argus investigates users about whom complaints are made, who have put inappropriate material online, such as racist or otherwise offensive remarks, indications of software piracy, or anything else illegal. A misuser might be suspended for a period of time, or deleted altogether.

Generally, however, Argus tends to "side more with free speech," Morrison says. "I think basically people do not want to be monitored. They do not want their private conversations to be monitored and they certainly don't want their private e-mail to be read by others."

Jill Reilly in the DA's office is also a free speech proponent. "Looking over people's shoulders wouldn't really solve these problems," she feels.

Support Your Local Watchdog

This is where EFF and CPSR come in. To the question posed by an audience member at the BCS meeting, "What is one thing that I, as a citizen, can do to help?", the answer was, "Buy an Electronic Frontier Foundation t-shirt. The money will be used for good purposes."

As EFF co-founder Mitch Kapor told *The Boston Globe* recently, "Our lives are increasingly going to be lived in cyberspace. Laws will be passed, and if we're not there, they will probably be something we won't like."

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Marguerite Zientara is the author of ***The History of Computing****, copyright CW Communications, Inc., 1981; and* ***Women, Technology & Power****, Amacom Books, New York, 1987.*

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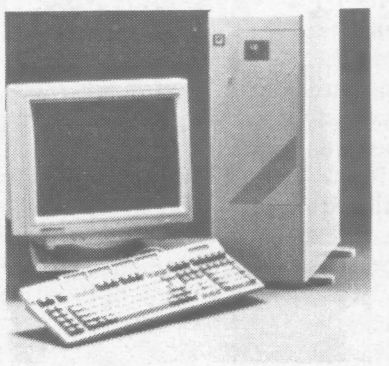

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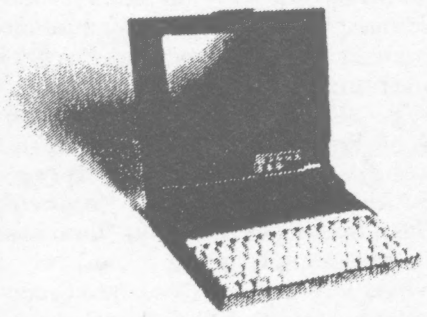

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By Marguerite Zientara

East West Education Development Foundation Gets Boost, Seeks Donations

Members of the staff of the Ukranian Center for Independent Political Research. They use one 386 with an HP laser printer, one XT and the Macintosh Plus with an ImageWriter One to publish 30 journals a month. The staff works in shifts 24 hours a day and the Mac is so heavily used that the letters have been worked off the keyboard. They are seeking a second 386 and laser printer and five Mac Plus computers.

Alex Randall is a man with a mission. "If I could round up all the old PC XTs with 10MB hard drives sitting in closets in the United States and airlift them to Eastern Europe today, we could change the world," he believes. Piece by piece, Randall is trying to do just that.

As Executive Director of the two-year-old East West Education Development Foundation, Randall's charter is to promote democracy and education throughout the world by supplying computer tools where they're needed most.

At this moment, the emerging democracies in Eastern Europe are in dire need of the computer equipment that corporate America considers woefully out of date — XTs, ATs, early model laser printers, and especially modems. "On the streets of newly emerging countries of Eastern Europe and the former Soviet Union, personal computers are referred to as 'bricks of democracy,'" reports Randall, just back from his third trip to the area.

"With these old, simple machines, the people there are doing miraculous things," he notes. "Some of the organizations I just visited are the beginnings of an Associated Press, the beginnings of a free newspaper, organizations like the League of Women Voters, which are all just barely getting going. They're driving what Americans would find to be pathetically old technology and they're performing miracles with it.

"For democracy to survive in these countries that have had totalitarian

governments for 2,000 years," Randall believes, "what's missing is the XT that's in your reader's closet. It's also important to realize that a single machine can make a significant difference. A group that is using typewriters and carbon paper to publish a journal, for example, can become automated with one XT and a laser printer."

Two recent windfalls — a $220,000 grant from the National Endowment for Democracy (Washington, D.C.), and a donation of 347 computer-related products from Lotus Development Corp. (Cambridge, Mass.) — will undoubtedly go far in helping the Foundation fulfill its mission.

It is not only Eastern Europe that has benefitted from the Foundation's work. As Randall puts it, "'West' is our middle name." There is a long list of recipients in the United States as well, including the local Cape Cod Hospital, the Boston Center for International Visitors, Brown University's Center for Foreign Policy Development, and Somerville (Mass.) Community Corp.

"On the streets of newly emerging countries, ...personal computers are referred to as 'bricks of democracy.'"

Lotus, which has agreed to place its excess and out-of-service hardware in trust to the Foundation on a continuing basis, has specified that its donations should be given to local charities only.

For Lotus' part, the Foundation solves the problem of what to do with outdated equipment. "East West is solving one of our standing problems by taking it *all* away," says Lotus Technical Services Supervisor Bill Kuzmitch. "We're not set up to handle and service these dated machines for donation."

Other area donors include Bank of Boston, Gillette Co. (Boston), Grace Construction Products (Cambridge, Mass.), NEC Technologies (Boxboro, Mass.), and Target Systems (Marlboro, Mass.).

The non-profit Foundation is "hungry for volunteers," Randall says, and "desperate" for tax-deductible donations of money or computer hardware and software. If you are planning to travel to Eastern Europe, you can even volunteer to deliver some equipment while you're in the neighborhood.

Besides the computers themselves, Randall has discovered a crying need in Eastern Europe for the following missing links: 1,000 power cords, 1,000 360K floppy disks, and a 360K-format diskette duplicating machine.

If you can help, or if you'd like more information, contact the East West Education Development Foundation, 49 Temple Place, Boston, MA 02111. Telephone 617/542-1234.

Two Sources of Help for the Unemployed

Computer Classes at Half Price

With the number of high-tech layoffs mounting steadily in New England, at least two organizations are giving unemployed workers a break.

International Computer Training Association (ICTA) member Systemetrics, Inc. (Cranston, R.I.) is offering to train the unemployed in technical skills at half price.

"For all our courses, we offer unemployed people a 50% discount off the full price, but the unemployed person is enrolled on a standby basis," explains Leo Mansi, training manager. "That means if a full-price customer signs up later, he or she will get precedence over the standby person."

Systemetrics offers a full slate of hands-on classes in word processing, database management and spreadsheet management. Typical full-price fees are $390 for a two-day course, "WordPerfect 5.0/5.1 Step by Step," or $195 for a one-day "Introduction to the PC."

Systemetrics is at 95 Sockanosset Crossroad,Cranston, R.I. Telephone 401/275-2200.

Free Job Bank Available

The Boston Section, PACE (Professional Activities Committee for Engineers) of the Institute of Electrical and Electronics Engineers, Inc. (IEEE) is currently setting up a free job bank for all unemployed engineers, scientists, technicians, marketing managers, salespersons, and others in high tech. The job bank is not just for IEEE members, but for everyone.

"It's one of the first activities that in one sense we'd like to put out of business as soon as possible," quipped Director Irving Weiner, who has volunteered to head the effort.

Unemployed people are invited to send their resumes to IEEE Job Bank, 614 Hammond Street, Chestnut Hill, MA 02167. They should include a note with key words defining what they do, appropriate for keying into a computer database. Prospective employers can write or call in to get lists of people who might be appropriate for openings they have.

"Even though IEEE is a high-tech organization," Weiner says, "at the moment we don't have the resources to automate the Job Bank." In the near future, the project hopes to have an unattended dedicated PC into which resumes can be scanned, and employers could then access the database directly.

To that end, the Job Bank could use donations of a 286, a fax modem, a scanner and related software. Volunteers are also needed to maintain the database. If you're interested, call 617/232-3366.

Carroll Center for the Blind Seeks Corporate Sponsors

Beginning on July 26, the Americans with Disabilities Act will require employers with 25 or more employees to not discriminate against qualified individuals with disabilities in their hiring practices. By 1994, the Act will cover employers with 15 or more employees.

Corporations looking to comply with this new law may want to consider becoming a corporate sponsor in the Carroll Center for the Blind's (Newton, Mass.) Partners for Productivity program.

"Because of the Act, a lot of companies are very confused," says Elizabeth Ferrarini, spokeswoman for the Center. "They don't understand what is reasonable for them in complying with the law, never mind understanding the disability of blindness or low vision."

Last fall, the Center received a grant from the U.S. Department of Education. The grant requires the Carroll Center to work with corporate sponsors to help it develop training programs for blind or visually impaired clients, and to be willing to hire or offer internships to course graduates.

The Carroll Center has held one training course in medical transcription and is planning a course in customer service for September. A third course will be held next year on an as yet undefined topic.

"What we're looking for are corporate sponsors who are willing to make an investment in time and attitude, to be sensitive and accommodating to visual disabilities," Ferrarini explains. "We're willing to sensitize them about the disability, and to educate them as to what people can do with computers and adaptive technology. We'd like to look at how visually impaired people can fit into their environment. It's not all that difficult."

For more information on the Partners for Productivity program, contact Elizabeth Ferrarini at the Carroll Center for the Blind, 770 Centre Street, Newton, MA 02158. Telephone 617/969-6200 or 800/852-3131.

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BOSTON COMPUTER NEWS

By Marguerite Zientara

MicroTouch Files for Initial Public Offering

MicroTouch Systems' UnMouse, a touch-sensitive tablet that replaces the mouse or trackball.

MicroTouch Systems, Inc. (Wilmington, Mass.) has filed a registration statement with the Securities and Exchange Commission (SEC) with respect to a proposed initial public offering (IPO) of 1,350,000 shares of common stock.

Of the total shares, 750,000 will be offered by the company and 600,000 will be offered by certain of its stockholders. The offering price of the stock is expected to be between $13 and $15 per share. At press time, no date had been established for the IPO.

The offering will be managed by Montgomery Securities, Adams, Harkness & Hill, Inc., and Tucker Anthony, Inc. The net proceeds to the company will be used for general corporate purposes including working capital.

Founded in 1983, MicroTouch develops, manufactures and markets touch-screen-based systems, including touch-sensitive screens, notebook computer input devices and digitizers for pen computers. MicroTouch is located at 55 Jonspin Road, Wilmington, MA 01887. Telephone 508/694-9900.

Upgrade Offered to SNAP Marketing, Sales & Service Software

The SNAP Software Group of Sales Technologies, Inc. (Manchester, N.H.) has announced version 5.0 of its SNAP software, said to feature a refined user interface, contact and account orientations, parent/subsidiary linking and 30 new user-defined fields for full integration of a user's marketing, sales and service arms.

Other enhancements include a security upgrade, field mapping capabilities, stored import/export criteria, and set-up and support for team selling and management across distributed sites.

SNAP 5.0 also features "Transactions," a data movement function said to enable users to exchange updates, additions or deletions to account information between separate or geographically dispersed SNAP databases.

SNAP 5.0 runs on the IBM PS/2 and compatibles, laptops, and on industry standard networks, both LANs and WANs. The software is licensed in three ways: single user, volume purchase or network license. The package costs $1,500 for a single license, with volume discount and network versions available.

Sales Technologies, Inc. is located at 175 Canal Street, Manchester, NH 03101. Telephone 603/623-5877.

Delphi Online Introduces Low-Cost Membership Option

General Videotex Corp. (Cambridge, Mass.) has announced a new low-cost membership option for potential users of its Delphi online service. Under the "10/4 Plan," Delphi members receive their first four hours of evening access per month for $10, with additional time available at $4/hour.

The 10/4 Plan replaces Delphi's Basic Plan effective July 1. Compared with Delphi's Basic Plan rates, the 10/4 Plan reportedly saves members more than $12 on their first four hours, and $2 on each additional hour.

Delphi will continue to offer the 20/20 Advantage Plan, wherein members receive their first 20 hours of evening access per month for $20, with additional time at $1.80/hour.

Accessible with any computer and modem, Delphi offers more than 150 services in such categories as entertainment, computer support, finance, travel, news, education and personal networking. General Videotex is at 1030 Massachusetts Avenue, Cambridge, MA 02138. Telephone 617/491-3342.

DEC Unveils Desktop Manager for Windows Users

Digital Equipment Corp. (DEC; Maynard, Mass.) has introduced Vivace for Windows, a customizable desktop manager said to help Microsoft Windows users work more easily with multiple applications, network services, and large numbers of documents. It runs on standalone PCs and on any PC LAN.

Vivace creates a customized representation of the user's personal work environment. The desktop manager includes icons to depict file cabinet levels, documents, applications, network services, printers, fax machines, CD-ROM drives, and other peripherals. Each user can organize his or her PC desktop to mirror the physical office.

Without Vivace, a user must "FIND" an application, load it into memory, click on "FILE," click on "OPEN," then look for the right file name and, finally, click on the file name to load it into memory. With Vivace, a user clicks on the meaningful document name, and the software does the rest.

When a user cannot remember the name or location of a document, Vivace's search capability reportedly helps the user find it on the PC or PC LAN, regardless of which application produced the document. All documents found are immediately available for editing. Out of the box, Vivace recognizes and integrates 40 popular PC applications.

Vivace, which runs on top of Windows 3.0 and 3.1, works with rather than replaces the Windows Program Manager. Vivace version 1.0 supports Novell NetWare, Microsoft LAN Manager, Banyan Vines, and Digital PathWorks. It also supports cc:Mail for Windows, DaVinci for Windows, Microsoft Mail for Windows, and All-In-1 Mail for Windows.

Vivace will run on any Intel 286-, 386- or 486-based PC with 1MB of extended memory (2MB is recommended), a 40MB hard disk or network disk with 1.5MB of free space, a 720K disk drive, and a mouse or other pointing device. In a PC LAN, at least one base system must have a 720K disk drive. In an asynchronous network environment, every base system must have one 720K disk drive and 1.5MB of free hard disk space.

Vivace requires DOS 3.3, 4.0, 4.1, or 5.0. Vivace costs $145 and is available either through DEC or through value-added resellers, distributors and mail-order companies. Digital is headquartered at 146 Main St., Maynard, MA 01754. Telephone 508/493-5111.

LotusWorld Opens With Talks By Manzi, MIT Experts

LotusWorld, a conference and expo sponsored by Lotus Development Corp. (Cambridge, Mass.), the publishers of Lotus World, kicked off with keynote speeches by Lotus chairman and CEO Jim Manzi, other Lotus officials, and scientific and professorial staff from MIT.

Mark D. Flanagan, president and CEO of Lotus Publishing, gave the opening talk in the event, a four-day extravaganza for users and developers that featured more that 60 sessions, panels, and roundtables.

The lead keynoter of the conference, Manzi, then described how the flatter, decentralized, global corporation is requiring people to communicate, collaborate, and share information. These days, he stressed, the focus is on automating processes to increase the productivity of the entire organization, not just individuals. The company chief outlined Lotus' current "Working Together Strategy," as well as future plans to address these changes.

Another speaker from Lotus, John Landry, chief technology officer and senior vice president for software development, applied Manzi's theme to the company's product development. Mixed hardware and systems environments are now commonplace, he said, and customers are demanding products that can operate across networks.

Landry went on to detail how product development efforts in the areas of user interface, tools, platforms and architectures is meeting this need through the company's Working Together Strategy.

Walter Bender, principal research scientist at the MIT Media Lab, spoke on the topic, "Merging Technologies to Create New Opportunities." According to Bender, three trends are altering the relationship between mass media and the individual: the proliferation of digital communication channels, the growth of personal computing, and advances in display technology. Using findings from MIT Media Lab research, Bender showed how information and entertainment will be distributed and presented in the future.

Answering the question "How Will Information Technology Change the Way We Work Together" was a second speaker from MIT, Thomas Malone, professor of information systems at the Sloan School of Management and founder and director of the MIT Center for Coordination Science. Society is on the verge of an era in which groupware and other new technologies will dramatically increase interconnections between people, Malone stated. The professor then explained what this trend means for people, organizational structures, and the effectiveness of work.

— *Jacqueline Emigh, Newsbytes*

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A. Peter Hamilton Named President Of Banyan Systems

A. Peter Hamilton, the new president of Banyan Systems

Banyan Systems, Inc. (Westboro, Mass.), a leader in enterprise-wide PC-based networking systems, has named A. Peter Hamilton president and chief operating officer. At press time, Hamilton was scheduled to begin overseeing the day-to-day operations of the 9-year-old, 650-employee company this month.

Hamilton most recently served as general manager of Hewlett-Packard's (HP) Colorado Networks Division, Systems Management Division, and Openview Network and Systems Management Program.

The firm's seven vice presidents will report to Hamilton. Hamilton will report to David C. Mahoney, company co-founder and Banyan's current president, who will continue in his role as chief executive officer and chairman of the board. Hamilton will also join Banyan's board of directors.

Hamilton brings to Banyan 25 years of experience at HP, heading domestic and international businesses with annual revenues ranging from $50 million to $350 million. Hamilton was also a key player in the founding of the Open Software Foundation.

Prior to HP, Hamilton worked for Honeywell Corp., Rockwell Corp. and Argonne National Laboratories. He graduated from Wentworth Institute of Technology (Boston) in 1960. Banyan is at 120 Flanders Road, Westboro, MA 01581. Telephone 508/898-1000.

Microsystems Software Announces CaLANdar for Windows

Microsystems Software, Inc. (Framingham, Mass.) has introduced a Windows version of CaLANdar, its e-mail enabled, people and resource scheduling software for LAN users.

CaLANdar's enterprise-wide group scheduling is scaleable for 10 to 128,000 users and is said to be suitable for users migrating from mainframe or mini products, such as IBM's PROFS.

CaLANdar for Windows is available in versions that support e-mail connectivity with cc:Mail, MS-Mail, Banyan Mail and MHS-based e-mail products. CaLANdar's e-mail enabled versions allow for directory synchronization, user propagation across a WAN, LAN-to-LAN communications, communication access to e-mail users and gateways, propagation of user availability data and automatic time zone adjustments.

CaLANdar is sold in 10- and 50-user building-block packages. Each CaLANdar database reportedly can support up to 1,000 users and 200 resources. In a multi-server configuration, CaLANdar supports up to 128,000 users.

CaLANdar for Windows costs $595 for 10 users and $1,095 for 50 users, in the LAN (single server/no e-mail) versions. Versions that are e-mail enabled and support multiple servers cost $795 for 10 users and $1,495 for 50 users. Microsystems Software is located at 600 Worcester Road, Framingham, MA 01701. Telephone 508/626-8511.

Intex Customizable Icon Palette for Lotus Users

Intex Solutions, Inc. (Needham, Mass.), a publisher of spreadsheet enhancements, has announced a new add-in enhancement for Lotus 1-2-3 release 3.1. "UltraBar" gives users as many as 75 icons, arranged in five palettes, to instantly activate any 1-2-3 command, macro or add-in application.

With a click of the mouse, users can automatically activate any of the 45 built-in icons provided, or create their own custom icons. The program also lets users invoke other add-ins directly from the icon bar.

UltraBar runs on any IBM PC, XT, AT, PS/2 or compatible and requires Lotus 1-2-3 release 3.1 or 3.1+. The software occupies 20K of RAM. UltraBar costs $69.95 plus $5 shipping from Intex, 35 Highland Circle, Needham, MA 02194. Telephone 617/449-6222.

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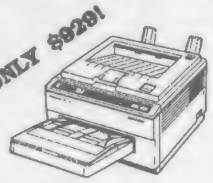

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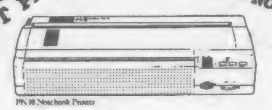

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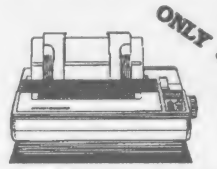

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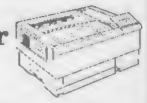

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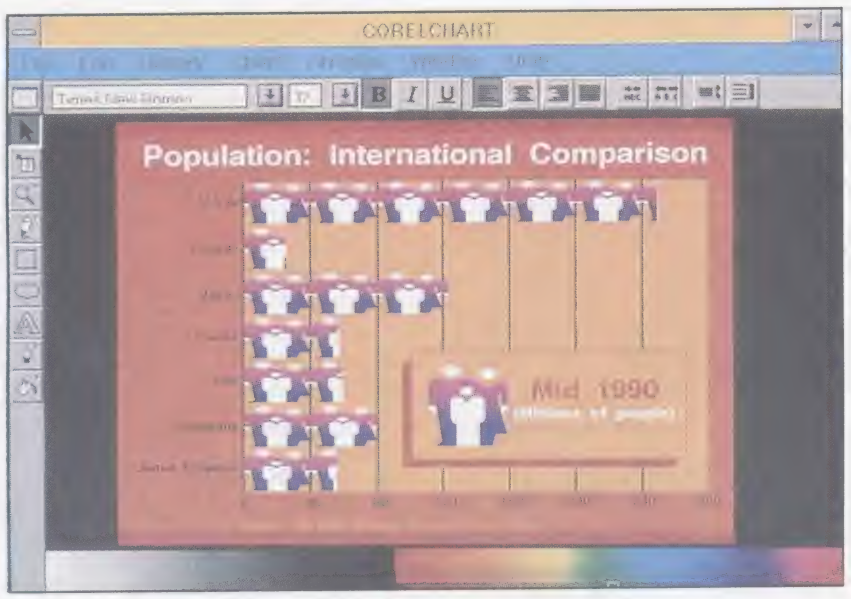
By Rick Altman

CorelDraw 3.0 Gives You More For Less

The anxiously-awaited version 3.0 of CorelDraw is here, and if early reaction is any indication, it might not stay on the shelves of your local software store for very long. In what might be the most ambitious upgrade the software industry has ever seen, Corel Corp. has placed the kitchen sink in the box, while lowering the price of the product by $100.

In short, CorelDraw is no longer just Draw. It is now Draw, Chart, Show, and Paint. When you pony up your $595 (suggested retail) or $149 (upgrade), you get four complete, self-contained graphics programs, in addition to the venerable Mosaic and Trace applications. Corel's position is clear and unambiguous on this point, as described by its president Michael Cowpland: "We want to be thought of as the single graphics solution for the PC. We want companies to feel that this is the only product they will need to own."

In so doing, Corel once again responds to the competition in a uniquely characteristic manner. When Micrografx reintroduced Windows Draw last year, a very attractive $150 drawing program, there was prompt speculation as to whether Corel would capitulate and produce its own slimmed-down program. That was the expected response. Instead, it has taken a completely different route, in a style that reminds me of the San Francisco 49ers in the 1980s: Instead of reacting to changes by their opposition, Bill Walsh and Joe Montana constantly came up with new strategies that kept them one step ahead, seemingly oblivious to the competition. Will it work for Corel as well as it did for the 49ers? Read on...



Above is shown a chart created with CorelDraw 3.0. Version 3.0's abilities now include Chart, Show, and Paint features, and the program's sophisticated controls have been redesigned to offer the user more interactive control.

Roll Up The New Features

Continuing as the flagship program, CorelDraw maintains its familiar user interface, while at the same time offering a new look that might become a standard with Windows programs. The program's more sophisticated controls — like text on a curve, fountain fills, extrusions, blends, and flexible text editing — have been redesigned to offer the user more interactive control. For instance, instead of issuing a static command to blend two objects, you now invoke a dialog box that stays on screen, allowing you to make constant and incremental adjustments. If your blend needs a subtle change, the dialog box is right at your mouse tips where you can make the change and quickly apply it. Corel calls these dialog boxes *roll-ups* as they can be "rolled up" and placed inconspicuously on your workspace.

Furthermore, two objects that are linked by a command, such as text fitted to a curve, maintain their relationship. Change the curve and the text automatically adjusts to stay fitted to it. Coupled with the full-color editing mode, these interactive controls breathe new vitality into a program which maybe didn't need it in the first place.

Still absent from the list of features is any implementation of styles. While the Copy Style From command can copy the attributes from one object to another, there is no facility for linking objects and changing them globally. Many users, anticipating this feature, reacted with disappointment to its absence during early showings.

A Bonanza of Text Enhancements

With only one major exception, CorelDraw 3.0's text improvements are worthy of celebration. Text can be entered directly on the page, instead of in a dialog box, and paragraph text now resembles its typeface, instead of the "Stick-Figure Roman" that the previous version trotted out onto the page. The Text Roll-Up makes editing and adjusting text incredibly easy, as again, users can keep this handy dialog box beside the text they are editing.

In addition to the existing support for left-aligned, right-aligned, centered, and justified text, CorelDraw now offers full hyphenation, a spell checker, and a thesaurus. Perhaps best of all, Corel now supports Type 1 and TrueType typefaces, allowing you to use your existing library of type without conversion. The program ships with over 250 kerned and hinted TrueType faces that can be installed into the Windows environment and used across all Windows applications.

Therein lies the one big hitch: Ventura 4.0 users will not appreciate what CorelDraw 3.0 does to their loading times. The performance of the renegade Ventura 4.0 depends greatly on the number of typefaces that are installed under Windows. On my system, the loading time for Ventura 4.0 went from 16 seconds before CorelDraw 3.0 was installed to 4 minutes and 20 seconds after installation. Fortunately, CorelDraw continues support for existing WFN typefaces which are installed outside of the Windows environment; the continuing partnership between CorelDraw and Ventura 4.0 might owe its life to that.

With this move away from Corel's proprietary WFN format, the WFNBoss conversion program is no longer included with the product. Previous versions of WFNBoss will continue to work with Type 1 (but not TrueType) faces. Those who have used CorelDraw and WFNBoss to create and export their own typefaces need not fear: The Export menu now offers direct support for Type 1 and TrueType export.

The Interface

Corel's interface has been made almost completely Windows 3.1 compliant. The program functions as both an OLE (object linking and embedding) server and client, meaning that it can be the source or the destination for hot-linked graphics and data. The File menu shows the last four drawings opened, and many of the common Windows 3.1 dialog boxes are used. For some reason, though, Draw does not yet support multiple documents, although you can run more than one instance of the program. Another familiar Windows feature is the flexible installation routine that offers the user choices of what and what not to install. Good thing, too — a full install requires over 20MB and anywhere from 10 to 25 minutes.

Corel also adds layer support to its drawing board. Not only can various elements of your drawing be separated into layers, as Micrografx

SEE NEXT PAGE

Product Info

CorelDraw 3.0, $595
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FROM PREVIOUS PAGE

Designer has offered for years, but a separate layer is dedicated for guides. Any object placed on the guide layer acts as a "snap-to" object. You can create a circle, a square, or a large character and snap objects to it.

Finally providing relief to wrist-weary users, filled objects can now be moved by clicking and dragging any part of them, not just their outlines. This makes simple moves much easier.

Without question, though, the big interface enhancement is Corel's debut of its "roll-up" dialog boxes that make the important functions ultra-accessible. The implementation of these roll-ups, incorporated into the famous interface that trademarks the program, might be the most compelling reason to upgrade to 3.0.

The Extras

While Draw will continue to be the rallying point for the product, Chart, Show, and Paint are all credible products designed to work closely with Draw and with each other. Chart offers a few hundred ways to display spreadsheet data, Paint is an acquisition of Z-Soft's medium-powered Photo Finish, and Show can accept literally any Windows object and incorporate it into a slide show.

Those who use presentation software primarily to show graphs and charts might be frustrated with the decision to separate charting and presentations into separate, albeit linkable, modules. Unless I know that my data won't change (and when do I ever know that?), I find it easier to operate in Harvard Graphics or Lotus Freelance, where my chart data is immediately accessible. Despite its impressive array of chart options, Chart's text handling is subpar, leading me to suspect that it is the least evolved program of the group.

Finally, in keeping with Cowpland's belief that "everyone should own a CD-ROM drive," each copy of CorelDraw includes a CD with all the software and 14,000 pieces of art.

Larger Than The Sum Of Its Parts

While 1991 was a difficult year for Corel, with a buggy release of 2.0 and delays in an interim 2.01 update, version 3.0 should more than recoup any lost momentum. The essential appeal of CorelDraw continues to be the way that it defies analysis: It seems to work simply because it does. While that would normally be a cop-out for any journalist, it persistently holds true for this product and its small, dedicated development team. The program has the uncanny ability to make immediate sense to new users.

Furthermore, Corel's reputation for support goes beyond the conventional telephone hotline, as its marketing people regularly return cold phone calls, accommodate requests for demonstrations, and listen in earnest to the requests of users.

This reputation is a central part of Corel's strategy of becoming a corporate graphics standard. The company hopes that businesses will see CorelDraw as the automatic choice, much the way business users have viewed Lotus 1-2-3 for years. The risk is that CorelDraw's collection of software will push prices down for standalone drawing programs. With Micrografx'sWindows Draw already defining a low price point at $150, $595 could soon be thought of as too expensive.

Pound for pound, CorelDraw loses a stare-down to very few. Micrografx Designer has long been the leader in technically-precise drawing, but Corel's improved guidelines and new layers closes that gap considerably. And while the anticipated new release of Adobe Illustrator for Windows boasted features earlier this year not found in CorelDraw 2.01, by the time it arrives, Illustrator's thunder will be stolen. The new Professional Draw by Gold Disk offers styles for drawing formats, but other than that, looks like a knockoff of CorelDraw 2.01. Arts & Letters has never competed head to head with Corel on drawing but has cornered the clip art market. Perhaps the only advantage Computer Support still enjoys is in its sheer number of clip art pieces, as the images themselves can't compare with the samples that come in the CorelDraw box. It is likely that the most compelling alternative to CorelDraw would be the well-priced Windows Draw from Micrografx.

All speculation notwithstanding, CorelDraw reaffirms its position as the leader of illustration software with version 3.0.

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Rick Altman has authored books on Ventura Publisher, PageMaker, CorelDRAW, Harvard Graphics, and DESQview. You can write to him at 20204 Merritt Drive, Cupertino, CA, 95014, or on CompuServe (72341,1714).

CorelDraw Design Contest

Corel Corp. recently held its annual design contest, dedicated to, and limited to, those who use CorelDraw to produce their illustrations. Like last year, the grand prize winner was shrouded in a bit of controversy. In 1991, the winning entry was presented on the cover of a national magazine for Macintosh users just two weeks after the contest. Given lead times for large magazines, the illustration made its way to the Mac long before the contest, fueling speculation that it was produced there originally and ported to CorelDraw on the PC.

This year's winning illustration, a multi-hued and patterned iguana, was produced entirely with bit-mapped images; none of Corel's drawing tools were used. The image was so large that it required special handling to store and print, ensuring a year of headaches for Corel marketing personnel who must promote it. Still, the image was contained in a single CDR file, and that is the only hard and fast requirement that the company laid forth. Therefore, a lizard represents the best of show for 1992.

I wrote about the design contest last year in this space, and look back on comments I made then...

"I saw a predominance of 21st-century, super-slick designs. As the computer is a phenomenon of the present and future, so are the artists who use it. I was hoping to see more sketches, more mood, more use of soft color."

As more illustrators reach for the mouse instead of the sketch pad, the computer becomes the source for more varied art, including illustrations that don't yell out to you that they were done on a computer. This year's entries included many pieces that could be appreciated for their own sake, not as computer art.

"As brilliant and creative as the entries were, they tried too hard. This is really the old rap on desktop publishing — that because the tools are available, there is an irresistible urge to use them all. Many, if not most, of the entries had one too many elements, one too many colors, one too many overlapping images — one too many shining examples of the technology instead of the art."

No doubt there were still a lot of overly ambitious drawings, but we also saw beautiful portraits (including one of Magic Johnson that almost won the whole thing), tasteful use of color, more black and white images, and much more realism in depiction of landscapes and buildings. This year, there was far less of the phony 21st-century abstract impressionism.

"An overwhelming majority of entrants were men, from all over the world. The international mix of designers was quite exciting; the gender mix was nonexistent."

Alas, no improvement here. This cosmopolitan group of entrants was once again over 75-percent male dominated. I'm still wondering why that is...

"For that matter, most of the judges were male also."

No change here, either. Equally curious, and perhaps responsible for the gender disparity, is that many of the judges were editors and reporters from major computer magazines, but there were very few art directors as judges.

"An annual design contest is a wonderful commentary on the evolution of the PC as a tool for artists. Today's software has taken us to a new place — I can't wait to see where we go next."

Couldn't have said it better myself...

— Rick Altman

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DEALER SPOTLIGHT

By Marguerite Zientara

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The NPC Computer Corp. crew: vice president of manufacturing David Javaheri (seated at far left), vice president sales and marketing Stanley Kavka (seated at right) and president Ali Karimi (standing at far right).

Company: NPC Computer Corporation
Location: 1320 Centre Street, Newton Centre, MA 02159
Telephone: 617/965-8325, 800/ALL-XTAT
Hours: Mon-Thurs, 9-7; Fri-Sat, 9-5
Established: 1986
Co-owners: President & founder Ali Karimi and Vice President of Manufacturing David Javaheri
Hardware: NPC-brand fully IBM-compatible systems, ranging from 286s to 486/50s. All systems are FCC Class B approved. Also, printers and peripherals including CD-ROM players, tape backup, WORM storage media, sound blasters, mice. Full line of notebooks.
Software: Selection of popular business software includes DOS, Windows, PFS:WindowWorks. Novell Gold and LANtastic networks.
Consulting: Designs hardware, software and networking solutions at no cost to customers.
Service & Support: Free, unlimited toll-free telephone support to customers. Three full-time technical support engineers. On-site warranties available. Drop-off service for all IBM compatibles; same-day service in many cases.
Warranty: 12 months — all parts, all labor.

Ali Karimi spent 11 years designing hardware, writing software and managing engineering groups before starting NPC Computer Corporation in 1986. From a one-person operation (soon joined by co-owner David Javaheri) in the early days, NPC has expanded to include a staff of 26 professionals, and has grown more than 100 percent per year for the past three years. The company expects to see more than $7 million in sales of the NPC brand alone for fiscal year 1992.

Although its office-building location suggests corporate sales, NPC also welcomes the individual buyer, for either home or small business use. NPC's impressive showroom caters to both categories of customer. "Even though we have many large clients, such as Children's Hospital and the Massachusetts Turnpike Authority, we also welcome small corporate clients and the home end user," says Stanley Kavka, vice president of sales and marketing. "We often find that people buy a computer from us to do work at home, and that eventually gives us a lead into their corporate employer."

What do you consider to be your specialty?

NPC's specialty is manufacturing the best computer products on the market for the lowest price. Price, however, is not our only concern. After carefully selecting components and conducting quality evaluations, only then do our buyers negotiate the best possible component prices.

That doesn't mean that we have the least expensive computers in the market, because you can use cheaper components and cut the warranty, and cut prices. But for the high level of quality that we offer, no one underprices NPC. We offer price guarantees, component for component, but we will not sacrifice our high quality components to match someone else's low prices.

When you say you actually manufacture the NPC-brand systems yourselves, what do you mean?

The manufacturing process is not just putting components together; it requires knowledge and expertise. We go through all the phases of manufacturing — component selection, evaluation, inventory control, assembly, testing, burn-in, quality control/assurance, packaging, and shipping.

We have implemented a point system to reward our technicians for quality achievement.

You seem to attract clients from some of the largest companies, government agencies and colleges, as well as individual buyers. How do you attract these clients?

Many clients have taken advantage of NPC's offer of an evaluation system. Invariably, our computers outperform even the best known competition.

The employees here are all educated in computers, holding degrees from an associate degree to a Ph.D. These professionals understand computers, and they know how to talk to both corporate and home clients.

Our customer base is further attracted by the consistency of our products. We do not change the components as the market changes, just to economize. Because of our high-volume buying power, NPC can suggest design changes directly to our parts manufacturers.

Since you seem to be doing very well in spite of the Massachusetts economy, I wonder what your biggest challenge is?

Our goal is for NPC Computer Corporation to become a national entity.

What is your plan for growth?

We are planning to grow in the Northeast area by expanding sales efforts into the neighboring states. Eventually, we want to have a national presence.

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FEATURE

By Steve Kaplan

Imaging

A Revolution In Information Management On Local Area Networks

Imaging means never having to file a letter, report or article again. No longer must endless boxes in warehouses be searched for the right document. No one need wait while a file is in use. Losing an important piece of paper is not a concern. Incoming letters need not be copied 50 times for distribution. Outgoing letters don't need to be "carbon copied" around the office. Contracts don't need to be retyped. Goodbye fax machine. Goodbye copy machine. And good riddance to file cabinets and microfiche readers. Imaging eliminates paper while improving information flow by converting paper documents to electronic files.

The newest wave of imaging programs do not require minicomputers and other expensive proprietary hardware products. They operate on standard PC networks and support popular operating systems and interfaces such as Windows. Use almost any scanner to store a paper document on an optical CD for easy retrieval days or years later. Imaging's low cost and ease of use will revolutionize the way business is done. Faster and more reliable access to information guarantees an explosion in popularity of the same magnitude as the personal computer and the network. The PC freed employees from dependence upon the mainframe for producing and analyzing information. It further allowed the production of newsletters, the design of buildings, and the creation of reports at speeds never before attainable. Networks proliferated as users found they could electronically share their information along with printers and modems. Imaging takes the technological war against waiting to a new level.

Imaging eliminates paper while improving information flow by converting paper documents to electronic files.

It is a war that, to some extent, the office worker has been losing. Whether in basic administrative tasks, or in specialized fields such as finance, sales, marketing or customer service, the PC has not necessarily made the total environment more efficient. A 1991 *Business Week* article showed office productivity declining 7% since 1973, as opposed to a 51% increase in factory productivity for the same period. According to Herbert A. Edelstein of Euclid Associates, there are 600,000,000 pages of computer printout in this country per day. When combined with 234,000,000 photocopies, 76,000,000 letters and 24,000,000 documents, we end up with 45 sheets of paper per worker per day. We are clearly out of control. The dark side of the PC's information-generating enhancements is the massive amounts of paper output that result. It's just so

easy to print out reports and graphs and forms and letters. Run them all through the copier and you've killed off a forest or two.

The personal computer is a grass roots product. Since the middle of the century billions of dollars have been spent on mainframes and cool rooms and data processing personnel. Yet, with very little central direction or planning, the last decade has seen the bulk of corporate computing shift from an organized MIS department to lots of individuals doing their own thing on PCs. Despite an increase in user speed, creativity and enthusiasm, the lack of organized information workflow has held back the true potential of the most powerful business tool yet developed.

PC users and even departments often duplicate reports and databases. Employees frequently develop unique procedures that are difficult for others to understand in the event of a vacation or termination. And, of course, massive amounts of paper are generated that must be handled, distributed and filed. In the early 1900s a similar situation faced the factory worker.

While new machines dramatically increased the ability of the individual to produce more output, a lack of standards and coordination of workflow frequently negated these benefits as delays were caused from misapplied efforts. In his book *The Principles of Scientific Management*, Frederick Taylor showed that the solution lies in management's involvement in determining the best method of performing each task, and the amount of time it should take. Imaging is the means for applying a scientific method to managing the office. Converting scanned documents to electronic text or pictures is only one part of the solution. Imaging is ultimately a new method of managing information. The new imaging programs have workflow capabilities that divide tasks electronically among various departments or individuals. As each person completes his task, the supervisor receives electronic notification. Any job can therefore be monitored electronically without requiring extensive paper documentation. An applicant's resume, for example, can be scanned and routed through the network to departments or people who need to see it. Progress of the application including people's responses to it can be tracked by checking the screen. Upon hiring, the resume and comments go into an electronic file. Included are the W2 and signed employee agreement along with future reviews. A report by this employee might go in his personal file, yet also be indexed under the appropriate subject matter. Rejected resumes go into storage, but are always available at the touch of a button to authorized personnel. People hate to wait. Imaging is going to explode as a result.

Network programs such as e-mail, and later, groupware, helped disburse and manage information generated by the personal computer without requiring reams of paper. Imaging is the next logical step in truly making the office paperless. Lotus, in fact, is now adding imaging to its popular "Notes" group-ware program. An imaging system including software, scanner and optical storage unit can be purchased for prices starting at around $5,000. The increasingly affordable and simple aspects of imaging mean that, like the personal computer and network, it may well be adopted at a grass roots level before it gains the attention of upper management. Individuals and departments will work to eliminate their files and to solve workflow problems that MIS has been unresponsive in meeting. Their organizations will grow increasingly efficient, but may do so in a haphazard way.

The newest wave of imaging programs operate on standard PC networks and support popular operating systems and interfaces such as Windows.

Management has an opportunity to accelerate the full benefits of imaging by using a scientific approach to analyze office workflow. Consultants and specialized workflow engineers can certainly be a big help in accomplishing this task on an enterprise-wide scale. Getting started, though, is easy for anyone. Simply find a piece of paper, and start tracking its trail backwards. Through document image management, many of the tasks involved in its creation will be restructured or eliminated. Imaging has a lot going for it. It eliminates the inadequacies of paper filing systems, provides better coordination of office workflow, and frees up much of the time devoted to handling mundane paperwork. Executives can travel with a small laptop filled with electronic documents rather than briefcases bulging with paper. Storage costs are reduced as file cabinets and boxes of documents are eliminated. And, imaging is certain to receive an environmentalist "green" blessing. It is going to save one heck of a lot of trees.

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Steve Kaplan is president of RYNO Computer Systems, a networking and imaging company headquartered in Benicia, California. Steve can be reached at 707/746-6252.

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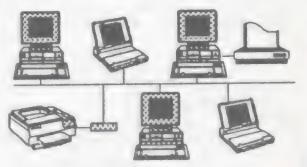

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Online Advances!

Superfast Telecom Hardware

By Lawrence J. Magid

Communications. It's what human interaction is all about. We face each other. We speak on the phone. We read. We watch TV. Whether it's input or output, it seems as if the human race is addicted to communications.

Computers didn't start the process. But they do intensify it. The key to computer communications is simple. You need hardware, you need software and, like all communications, you need someone — or something — to communicate with.

Computer communications, today, also includes interaction with fax machines. To that end, many computer modems also allow you to send and/or receive faxes.

Let's start with the hardware.

The great thing about standards, so goes the joke, is that there are "so many of them." That is very true when it comes to PC modems. The good news is that there is one standard that just about everyone adheres to. If it's not "Hayes compatible," don't buy it. Hayes Computer Company, one of the oldest PC modem makers in the business, created a command set which is now followed by virtually every modem company. Thanks to this standard, any modem you buy should work with almost any communications software. We haven't come across any recent exceptions to this rule, but anything is possible. In other words, just about any modem will get the job done.

Today, it makes no sense to buy a modem that doesn't operate at at least 2400 baud, or bits per second. That's the normal operating speed for most online services. You can get faster performance by buying a 9600- or even a 14,400-baud modem, but you'll pay more for the modem as well as surcharges for using it with online services. Most computer bulletin board systems, however, offer 9600-baud access for no charge. Unless that board is located in your local dialing area, you might have to pay phone charges, so faster modems translate into lower phone costs.

Speed

There are two factors that determine a modem's speed. One is its rated "baud rate."

The word baud is derived from the last name of J.M.E. Baudot (1845-1903), a French pioneer in the field of printing telegraphy and the inventor of the Baudot code. It is a unit of measurement that is roughly equivalent to the number of bits that can be transmitted per second.

A 2400-baud modem can transmit and receive 2400 bits per second (or bps). At eight bits per byte, that equals 300 bytes (or characters) per second. To put it in more human terms, a 2400bps modem can could transmit a 3,000-word article in about one minute.

Modem speed might not be important if you're just moving around short text files. But imagine logging on to a bulletin board to download a 300K shareware program. At 2400 baud it would take about 18 minutes to download that program. At 9600 baud, you could download the same program in about 4 1/2 minutes. A 14,400-baud modem would take only three minutes. A high-speed modem can make a lot of difference to those who value their time and phone budgets.

9600-baud modems have been around for several years but, until this year, they cost nearly $1,000. Today you can buy such modems for as little as $300. In fact, there is now a new generation of 14,400bps modems available, from major manufacturers, for a suggested retail price of about $550.

Confused?

While there are arguments in favor of getting a high-speed modem, there remains a fair amount of confusion in the marketplace. One solution, for those who are in doubt, is to stick with 2400 baud for the time being. It's easy to find 2400-baud modems — with built-in fax capability — for less than $100. If you are considering a high-speed modem, you are better off getting one that meets current international standards. Today that translates to a modem that conforms to the CCITT (Consultative Committee for International Telephony and Telegraphy) V.32 compression and V.42 error correction protocols. CCITT is a Geneva-based international agency that sets communications standards.

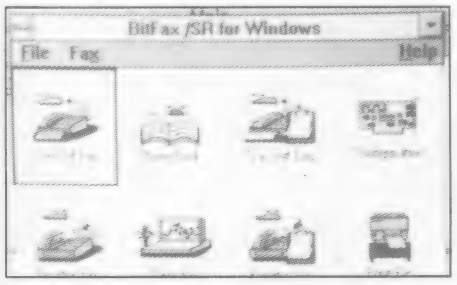
A V.32 modem with V.42 error correction, in theory, makes it possible for a modem to send and receive data at four times its rated speed. In other words, a 2400bps modem could operate at 9600bps while a 9600bps modem could fly at the rate of 38,400 bits per second. Ready to hyperspace? The new breed of 14,400 modems can operate at up to 57,400 bits per second.

Before you brace yourself for lightning fast communications, be aware that there is a long road between theory and practice. To begin with, the modems on both ends need to be compatible. That isn't always the case, especially with the online services. You are likely to find some dial-up BBS systems that operate at 9600 or even 14,400 baud. Even there, there isn't always perfect harmony between supposedly compatible high-speed modems from different vendors. That's one argument in favor of U.S. Robotics whose modems seem to be popular with many bulletin board system operators.

For this article, we looked at high-speed modems and several 2400-baud data/fax modems. The Intel 400e internal modem, the Practical Peripherals 14400FX SA V.32bis, the Intel SatisFAXtion Modem/400 internal modem and the U.S. Robotics Sportster all operate at up to 14,400 bits per second and conform to V.32 and V.42

standards. All these modems not only provide high-speed data transmission but are capable of sending and receiving faxes. We also looked at two portable fax/data modems: the Macronix MaxLite ($349) and the U.S Robotics WorldPort 2496. Both are about the size of a pack of cigarettes and able to transmit data at 2400 baud and faxes at 9600 baud. Macronix also makes 9600 and 14,400 versions of its portable modems. Finally, we looked at (but didn't review) what Adtech Microsystems has to offer in the way of internal and external fax and data modems.

On the Road



Bit Software's Bit Fax for Windows is designed to simplify your faxing with a fax/modem.

Both WorldPort and Macronix portable modems are ideal for the traveler who wants to be able to take a compact portable modem on the road. In both cases, the modems operate off a nine-volt battery or a small external plug-in power adapter. Although priced a little higher than desktop equivalents, they also work well on the desktop. All the modems tested worked well with the supplied DOS fax software but only the WorldPort and Macronix portable modems worked reliably with WinFax Pro — the most popular Windows-based fax software.

In addition to WinFax, there is a local contender also worth checking out. Bit Software is well-known for its popular BitCom telecommunications software. Now the company has branched out into the fax market with a complete Windows-based fax software package, BitFax for Windows, that can send and receive faxes in the background while you're working on another Windows application. While I didn't get a chance to try the program using a variety of fax/modems, the company does emphasize its wide compatibility with a number of such devices because of its experience in dealing with so many brands of modems.

Want to know how fast you're telecommunicating? This high-speed modem from Practical Peripherals includes a liquid crystal display (LCD) read-out of how fast you're transmitting data and the type of error correction in use.

Bundled Software

All the modems we looked at come with fax software. Some come with data communications software. The Intel comes with a stripped down version of Intel's new Windows-based FAXability send/receive fax software. The bundled version can only be used

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FROM PREVIOUS PAGE

to send faxes. Intel also offers the full-featured version, FAXability Plus, for $119 and a version with optical character recognition (FAXability Plus OCR) for $249. Intel's new software is compatible with other class 1 and class 2 fax modems. It will compete with WinFax Pro and FaxIt for market share in the growing Windows fax market.

Macronix also makes 9600 and 14,400 versions of its portable modems. Macronix includes WinFax with its 9600 and 14,400 modems and offers WinFax with its 2400/9600 modem for an additional $20.

The U.S. Robotics Sportster comes with BlastFax, an easy to use DOS fax program that allows you to send faxes in the background. Although it doesn't operate under Microsoft Windows, BlastFax has its own Windows-like interface that makes it easy to send a fax.

Lights On

One doesn't normally think about user interface when evaluating modems, but Practical Peripherals has placed an informative LCD panel on the front of the modem that provides much more understandable information than the LED lights typically found on modems. The LCD tells you the modem's status, in real words, including the data transmission rate and the type of error correction being used. There is also the usual array of LED lights. The Sportster external modem has the full set of LED status lights. The Macronix portable modem has two lights — enough to give you a vague idea that it's doing something. The WorldPort portable has four lights to indicate whether it's in data mode or fax mode and whether it's detected a carrier.

From an appearance standpoint, for what it's worth, the Macronix has one of the best designs in the modem world. Its sleek black case makes it an attractive traveling companion and a small — but attractive — accessory to any desk. Its built-in speaker, though quiet compared to most desktop models, is loud enough to hear while it's dialing. The WorldPort speaker is a little too quiet for my ears.

Appearances aside, all modems tested were able to negotiate communications with a wide variety of online services and bulletin boards at expected transmission speeds. As indicated earlier, all worked well in fax mode when used with their own software but only the WorldPort and Macronix worked flawlessly with WinFax Pro Windows-based fax software. The others worked sporadically, depending on the fax number called and the line conditions.

Another company of note I didn't get a chance to review is Adtech Micro Systems, which offers several low-cost internal and external fax and data modems. All modems come with both fax and communications software for DOS. Some models come with the company's own Windows-based fax software.

Budget-minded PC users can get a 2400-baud internal fax/data modem

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Lawrence J. Magid is a nationally syndicated computer columnist and Silicon Valley-based analyst and writer. He also writes regularly on the Prodigy online service. Readers can address correspondence to him c/o ***Computer Currents****, or via MCI Mail as "LMagid."*

Product Info

14.4K Fax Modem, $348
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COMM-panion 9600/9600, $438
SmartConnect 9624i, $98
Adtech Micro Systems
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Fremont, CA 94538
510/659-0756

9624 Portable Modem, $349
Macronix
1348 Ridder Park Dr.
San Jose, CA 95131
408/453-8088

14400FX SA Modem, $549
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BitFax, $79
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SatisFAXtion/400, $499
FAXability Plus, $119
FAXability Plus OCR, $249
Intel Corp.
3065 Bowers Ave.
Santa Clara, CA 95051
800/538-3373

Sportster 14,400 w/fax, $499
WorldPort 2496, $379
U.S. Robotics
8100 N. McCormick Blvd.
Skokie, IL 60067
800/342-5877

WinFax Pro, $119
Delrina Technology
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The Macronix MaxLite is one of the new generation of sleek, extremely portable fax/modems.

for a "street price" of about $59. The SmartConnect 9624i (suggested retail price $98) features a 2400-baud data modem along with a fax modem that sends at 9600 baud and receives at 4800 baud. It conforms to V.42 bis and MNP-5 error correction. The company's top-of-the-line internal modem transmits both data and fax at up to 14,400 baud with a potential throughput of up to 57,600bps thanks to V.32 bis and V.42 bis compression. The 14.4K Fax Modem has a list price of $348 and a street price of about $200.

The company also makes a line of portable external modems. All operate on a 9-volt battery or the supplied external power adapter. The COMMpanion 9620 (9600 fax and 2400 data) sells for about $119 (list price $188) while the higher-end 9600/9600 goes for about $259 (list price $438).

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By Lawrence J. Magid

America Online, CompuServe, GEnie and Prodigy are major online services that provide information, electronic-mail, travel services and, with the exception of Prodigy, the ability to download public domain or "shareware" software.

E-Mail

Electronic-mail, or "e-mail," is one of the most popular features offered by online services. With e-mail, you can send messages to one or more people, knowing it will arrive immediately. It's often easier than making phone calls because you and the other person don't have to coordinate your schedules. You send it on your time and your colleagues read it and respond on their schedules. Because the information arrives in text form, it can be saved to disk for later use. Virtually all computer journalists and most business writers now use some type of e-mail or online system to file their articles. It's not only quick, but it saves the publication the trouble of retyping or scanning the text. All the online services offer e-mail, but a lot of businesses and professionals choose a dedicated e-mail system such as MCI or AT&T Mail. MCI Mail (Washington, D.C.), popular with computer professionals, charges 45 cents for a short message (up to 500 characters), 75 cents for 501 to 2,500 characters or $1 for longer messages (up to 7,500 characters). There is a $35 annual fee. The company can be reached at 800/444-6245. MCI will also dispatch faxes at the domestic rate of 50 cents for the first half page and 30 cents each additional half page.

The service works with any communications software but requires special software (Lotus Express for DOS or Desktop Express for Mac) in order to send and receive anything other than text.

AT&T Mail basic service, for sending messages to other customers, is $3 per month plus 50 cents per message up to 1,000 characters, 80 cents for 1,001 to 2,000 characters, and 95 cents for 2,001 to 3,000 characters. There is a charge of 5 cents for each additional 1,000 characters after 3,000. As with MCI Mail, AT&T Mail also offers fax service. For information on AT&T Mail (Parsippany, N.J.) call 800/624-5672.

A SAMPLING OF ONLINE ACCESS RATES

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AT&T Mail	$3/mo. plus per-message charges of 0-1,000 characters: $0.50; 1,001-2,000: $0.80; 2,001-3,000: $0.95; each additional 1,000: $0.05	800/624-5672
CompuServe	$7.95/mo. for basic services; extended features add $12.80/hr.	800/848-8199
GEnie	$4.95/mo. plus $18/hr. prime time; unlimited eve. & weekend access to basic services (other services start at $6/hr. eves. & weekends)	800/638-9636
MCI Mail	$35/year plus per-message charges of 0-500 characters: $0.45; 501-2500: $0.75; 2501-7500: $1; each additional 7500: $1	800/444-6245
Prodigy	$12.95/mo. includes 30 personal messages/mo. ($0.25 each thereafter)	800/PRODIGY
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* as of May 22, 1992 ** voice number for sign up information

CompuServe

CompuServe (Columbia, Mo.) is the oldest of the major online services. Like other online services it offers electronic-mail, bulletin boards, forums and plenty of news services. Its computer and software forums are legendary for the hundreds of thousands of files — software and data — that users can download.

Joining the trend started by Prodigy, the service recently inaugurated a flat-fee pricing policy. For $7.95 a month, CompuServe members can enjoy unlimited access to a number of basic services. Other services are billed at the standard connect rate of $12.80 per hour for 1200- or 2400bps or $22.80 per hour for 9600bps.

Basic services include electronic-mail, news, stock quotes, *Academic American Encyclopedia, Consumer Reports, Peterson's College Guide* and HealthNet. News services include Associated Press and Online Today — a daily computer industry news report.

The basic service also gives you access to games and entertainment features including Roger Ebert's movie reviews. You can also access EAAsy Sabre — American Airlines' travel information and reservation system.

Basic service does not include CompuServe's extensive libraries of downloadable software. For that you pay the regular hourly fee.

CompuServe also offers a great many reference sources, although many carry hefty surcharges in addition the regular hourly rates.

Computer Database Plus, for example, provides access to the full text of more than 60 computer magazines including *PC, PC Week, MacWeek, Computer Graphics World* and *PC Computing*. Article abstracts are available from about 70 publications including *Byte, PC World* and *InfoWorld*. There are summaries of computer related stories from the *New York Times* and the *Los Angeles Times*.

You can perform a "key word" search or hunt for articles with any occurrence of a word or phrase. It's not cheap. In addition to CompuServe's hourly fee, there is a $15 per hour surcharge to find articles plus $2.50 for each article or $1 for each abstract you display.

Similar publication libraries are available for health, business and general interest magazines. Other CompuServe reference services include the *Academic American Encyclopedia, Consumer Reports, Magill's Survey of Cinema, Books in Print* and a searchable newspaper library.

Another useful service, called Biz*File, is a national electronic yellow pages that allows you to search for phone numbers anywhere in the country.

The CompuServe start-up kit includes a free copy of CompuServe Information manager — a menu-based program that allows you to navigate the service. You can also access the service via any terminal emulation program. For more information, call 800/848-8199.

GEnie

Like CompuServe, GEnie (Rockville, Md.) offers a basic flat-fee service ($4.95 per month) as well as additional services that are billed by the hour.

The basic flat rate service includes unlimited electronic-mail, access to headline news, the *American Academic Encyclopedia*, airline schedules and reservations. You get closing stocks and access to a number of bulletin boards and forums including genealogy, gardening, travel, automotive, science fiction, medicine, law, small business, investing, music, writing, space and photography. You also get access to American Airlines' EAAsy Sabre flight information and reservation service. News features on the basic service include top U.S. stories and international wires.

The computing forum, which costs $6 per hour, provides access to more than 100,000 downloadable files and programs.

Although GEnie, like the other services, has a strong IBM and Mac presence, it also provides strong support for Amiga, Atari ST and Apple II users. About 10 percent of the subscribes, according to marketing director Neil Harris, are Amiga users.

GEnie, like CompuServe and America Online, provides real-time conferences where you can chat, at the keyboard, with fellow members and occasional luminaries. GEnie's Computer Assisted Learning Center provides tutors and access to college credit for online education.

Computer news comes from Newsbytes — a worldwide network of computer corespondents. General news is available from NewsGrid, the same searchable database that costs more than twice as much on CompuServe.

GEnie's professional services, which generally incur an additional surcharge, include access to Dow Jones News/Retrieval, online investment and analysis from Charles Schwab and other investment data services.

GEnie recently added a number of professional databases including access to the Dialog database service.

Dow Jones News/Retrieval, which is also available through MCI Mail or directly from Dow Jones, provides stock quotes 15 minutes behind the ticker, information on securities traded on 90 exchanges and performance statistics on over 1,500 mutual funds.

GEnie, like CompuServe, works with any communications software, however the company provides free software, called Aladdin, to enhance the service.

All of the non-technical bulletin boards are available in the basic service. These include military, writers, public forum, genealogy and science fiction.

Interactive Games

GEnie is very serious when it comes to fun and games. There are several multi-player games including the incredibly graphic Air Warrior flight simulator where you engage in dog fights and bombing raids against other online members. Air Warrior comes with its own color graphic software for both PC and Mac. You use the mouse to fly your airplane as you attempt to shoot down or avoid enemy aircraft flown by other members. It's about as realistic as computer flight simulators get.

GEnie, like CompuServe and America Online, provides real-time conferences where you can chat with fellow members and occasional luminaries.

You can also download graphical software to play real-time online card and board games including poker, chess, reversi and backgammon.

GEnie extended services, not covered in the flat rate service, are billed at the rate of $6 per hour during evenings and weekends. GEnie costs $18 per hour during the business day. There is a surcharge for 9600-baud access. For more information on GEnie call customer assistance at 800/638-9636.

Prodigy

Prodigy (White Plains, N.Y.), a joint venture of IBM and Sears, is the only online service to engage in massive national advertising. The company's longterm goal is to sign up millions of households. Prodigy claims to have about 1 1/2 million members.

Prodigy, like America Online, comes with (and requires) its own software for the PC and the Mac. The service has its own unique interface which is virtually identical for both PC and Mac users. It doesn't have pull-down menus, but it uses the keyboard or the

SEE PAGE 26

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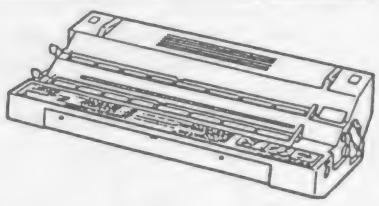

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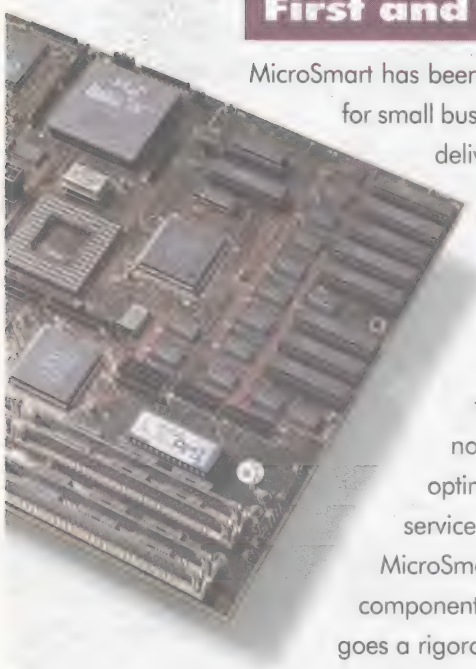

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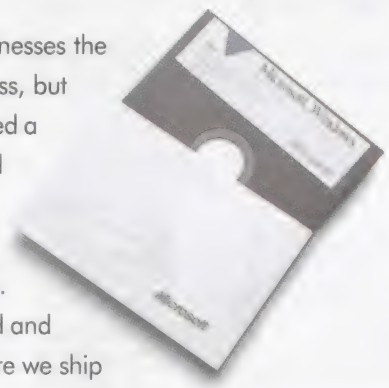

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- 1 Parallel/2 Serial Ports
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FROM PAGE 23

mouse to select on-screen buttons. Prodigy does not currently offer libraries of downloadable software, however the company is expected to make an announcement regarding this subject early this summer.

Prodigy charges a flat rate of $12.95 per month per household — less if you sign up for a year at a time. For that you get up to six separate IDs and passwords. Each account gets to send up to 30 electronic-mail messages a month. Additional messages cost 25 cents each. Prodigy also offers premium services — Fantasy Baseball and Strategic Investor. Both have surcharges. Other features are included in the basic fee. You don't have to watch the clock. There is no charge for online time and the service is available from 6 a.m. to 3 a.m., Eastern time.

Prodigy hopes to earn the bulk of its money from advertisers who pay a fee to display ads on the bottom of the screen. Users who are interested in an ad are encouraged to click on an icon to get further information from the vendor or order the product or services online.

Once logged on to Prodigy, your first stop is the ever changing "highlight screen" that displays one or more major news headlines as well as services and products that Prodigy is featuring that day.

Prodigy has its own news room where editors — some recruited from major TV networks — compile wire stories into news features which are often illustrated with color maps and other graphics. Some stories are just expanded headlines but, if events warrant , they can be very in-depth.

Prodigy is specifically designed for the home user with features aimed at personal finances, shopping, home banking, entertainment and hobbies. Business services include stock quotes, company and industry news from Dow Jones, economic indicators and market updates. There are articles from a variety of publications including *Home Office Computing* magazine. *Consumer Reports* provides access to its library of product reviews.

Prodigy also provides area news as well as business, sports and weather briefing. Color weather maps — both national and regional — provide graphic detail of oncoming storms, fronts and weather patterns.

Prodigy offers several clubs which serve as a gateway to articles and bulletin boards. The bulletin boards allow members to interact with each other's members. In addition, Prodigy contracts with "experts" who write articles and answer users' questions.

Steve Rosenthal and I each write three computer columns a week. Rosenthal focuses on Macintosh issues in his column while I write about MS-DOS and the computer industry. My fellow *Computer Currents* columnist, Tony Bové, along with his partner, Cheryl Rhodes, write a twice-weekly column on multimedia. The editors of *Computer Gaming World* write a very popular gaming column. *Home Office Computing* provides software reviews and *InfoWorld* provides hardware reviews. PC News — which includes descriptions of recently announced products, is updated several times a week.

If you like Macintosh- or PC-based graphical computing, then you're a good candidate for America Online. Unlike most online services, it lets you keep your interface while you're online.

Prodigy, like the other services, provides access to American Airlines' EAAsy Sabre for airline, hotel and car rental information and reservations. Prodigy does not currently offer downloadable shareware nor does the basic software allow you to upload or download data. There are, however, two programs that allow you to capture text and graphic screens. Pro-Util ($19.95) is a commercial program that you can order while online. Pro-Master ($19 registration fee) is a shareware program.

The startup kit, which is available from many computer dealers, has a retail price of $49.95 and comes with (required) software for either the PC or the Mac. For more information call 800/PRODIGY.

America Online

If you like Macintosh- or PC-based graphical computing, then you're a good candidate for America Online. Unlike most online services, America Online (Vienna, Va.) lets you keep your Mac (or GeoWorks on the PC) interface while you're online.

The PC version runs under the Geos operating environment which, like Macintosh and Windows, features icons, folders, pull-down menus and support for a mouse. America Online software is included with GeoWorks Ensemble. A stand-alone version, which includes the Geos interface, is available directly from Quantum Computer Services, America On-line's parent company.

The first thing you notice about the service is that you navigate by clicking on icons and opening up folders — just as you would if you were using a Mac or a PC under Windows or GeoWorks. You have access to all of the Mac and Geos graphical resources including copy and paste and the ability to save files. The software runs in the background so you can copy and paste between it and other Macintosh or GeoWorks applications.

The PC version comes with its own text editor that you can use to create messages, or to copy data from any part of the service. It can open any text file, regardless of whether it was created on America Online, and the files it creates can later be edited with any word processing program.

You can even have several windows open at once. You can, for example, be reading a news story while other information is on the screen in other windows.

As soon as you're logged on, you click the "Browse the service" icon which takes you to a set of color icons (if you have a color system) that serve as a gateway to the various departments. The Mac version actually "welcomes" you and says "goodbye" in a friendly male voice. Departments include News and Features, People Connection, Lifestyles and Interests, Games and Entertainment, Learning and Reference, Travel and Shopping, Computing and Software and What's New & Online Support.

The news section includes national, world and Washington reports from United Press International, *USA Today* and other sources. A "world news" folder contains additional folders where you'll find specialized stories broken down by countries.

America Online isn't the only service to offer business news releases from PR NewsWire and Business Wire, but it's unique in the way it organizes them in folders, broken down by industry. Users interested in computers, for example, would read the stories in the Technology folder. Others might select Commodities, Consumer Products, Construction, Entertainment/Media, Financial, Food, Health or one of the other areas.

The Computer and Software area includes software libraries, a dictionary of computer terms, support areas from a variety of companies and various articles.

There are software reviews, articles from various columnists and a database with descriptions of 14,000 computer software programs, broken down by Macintosh and DOS.

Financial

You can look up stock quotes and order commodities. One very nice feature allows you to enter and track your own stock and mutual fund portfolio. If you tell the system how many shares you own and what you paid for each issue, it will keep track of how you are doing.

Prodigy is specifically designed for the home user with features aimed at personal finances, shopping, home banking, entertainment and hobbies.

The MS-DOS version of America Online is included with GeoWorks Ensemble, but you can get a free startup kit directly from Quantum. The service, which costs $5.95 per month for the Mac and $7.95 per month for PCs, includes one hour free access time. Subsequent usage costs $5 per hour during evenings and weekends or $10 per hour during the business day for Macs. For PCs the charge is $0.10 per minute ($6/hr.) at all times. To contact America Online (and request free software) call 800/827-6364.

The WELL

Just about all online services offer some type of conferencing, but The WELL (Whole Earth 'Lectronic Link) makes it into an art form. It's the ideal place for spirited debate, especially for what one WELL spokesman calls "hacker issues" including privacy and free speech as they relate to electronic media.

The service is divided into conference areas, each with its own host who has a fairly broad amount of latitude. Individualism and freedom of expression are strongly encouraged.

The service costs $10 per month plus $2 per hour at any time. This rate requires that you call the service's host in Sausalito, Calif. Local access, via the CompuServe network, costs $4 an hour extra.

To sign on, use your modem to dial 415/332-7398 at 2400 baud. Or, for more information call The WELL's voice line at 415/332-4335.

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Lawrence J. Magid is a nationally syndicated computer columnist and Silicon Valley-based analyst and writer. He also writes regularly on the Prodigy online service. Readers can address correspondence to him c/o ***Computer Currents****, or via MCI Mail as "LMagid."*

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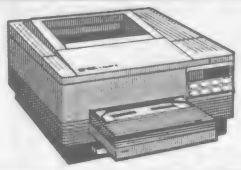

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By Charles Bermant

Lotus' Excellent Adventure

If Bill and Ted were in the PC business, they would acknowledge that Lotus makes some Most Excellent Windows Software. Aside from leaders in the word processing, graphics and (of course) spreadsheet areas, it brings us a few innovative utilities: Hyptertext, sound, and now image retrieval.

There are few programs like SmartPics for Windows — software that both defies existing categories and defines its own. At the same time, it is easy to use and the applications are obvious. SmartPics, as a clipboard-driven image library, stores scads (over 2,000 images) of clip art, to be cut, pasted and sized into any Windows application.

This function was not possible — or needed — before Windows brought a visual nature to personal computing. Previously, no one would have cared if you could, for instance, pop a recycling symbol into the middle of a document. But as documents and output options become more sophisticated, the artistically impaired seek ways to add visual pizzazz to their applications.

It's simple enough, with SmartPics. You call up its control panel and point to a specific image file. (This demonstrates one of the program's inconsistencies and imperfections. You scroll down a list of files with the ".sy1" suffix. So this little bit of DOSspeak becomes an unnecessary irritant.) Six thumbnail images are displayed at a time; you scroll down to find the appropriate art. You then select the "copy to clipboard" button. The SmartPics control panel numbers these steps, so anyone who can read will be able to use the program without thinking.

With the selected image in the clipboard, you can then paste it into any Windows application. Perhaps your section on the environment needs a more expressive subhead — the aforementioned recycling symbol. Or you need to underscore the point with a flag, hand grenade, satellite dish or any other symbol of modern culture. And it's available as a standard Windows metafile or in two bit-mapped flavors.

When you paste a SmartPics image into another application, such as a word processor or desktop publishing program, it is immediately sizable to taste. You click on any one of eight points surrounding the image, then adjust its size and shape. To readjust, just point, click and pull. Software does not get any easier than this.

The art contained in SmartPics is not what many people would call exciting. It's not even what many people would call art. There is nothing really flashy, no Bart Simpson or the Beatles. This isn't a result of a desire to be dull; it rather has to do with high royalty demands for copyrighted images.

That's not the point. With clip art, the accent is on the first syllable. While you wouldn't want to look at this stuff for any length of time, when it is placed within a document or other information it helps to get the point across — like popcorn for the eye. And if you really want Bart in your presentation, there's no reason that everybody else should have to pay for him.

SmartPics makes the visual and artistic process within Windows a little more democratic. You may not need a graphic artist — or even a graphics package — if all you want to do is insert slings and arrows into a document or spreadsheet. Point. Click. Cut. Paste — and Shazam! You're an artist.

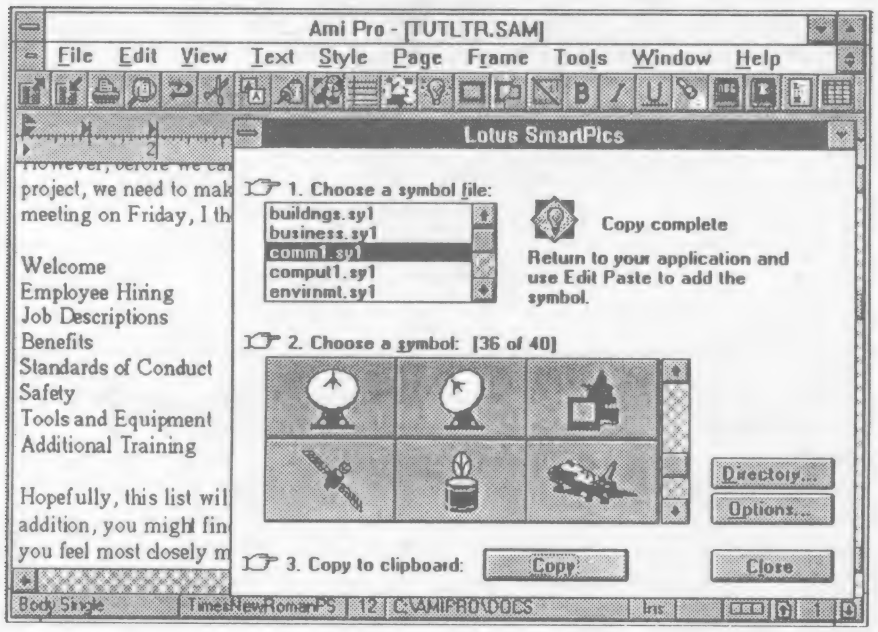
Clip art, as a concept, is a hard sell. There have been few reasons to incorporate it into a standard PC environment. SmartPics changes that, giving the average document a generic visual boost.

Correct Word Processing

For end users who have wondered what the heck to do with Asymetrix' ToolBook, the answer has just arrived: Nothing. Just let someone else do all the work, and let you know when they're finished.

WordStar, for example, has just released a trio of ToolBook-based applications: Correct Writing, Correct Quotes, and Correct Letters. These reference tools/writing aids help you to build a better document by placing the means to do so within a hypertext framework.

Correct Writing, a style guide, groups rules about capitalization, punctuation,



SmartPics for Windows is a flexible, clipboard-driven image library. Shown above, an example of how the user copies a SmartPics image to the Windows clipboard, where it is ready for pasting into a document.

abbreviations, bibliographies and other nuances on an index-card like interface. Each category has several attached groups, and the explanations are succinct. If it doesn't explain all the subtleties of the rule, it places the information nearby where you can immediately apply it to the current situation.

Correct Quotes has an alphabetical interface — you click on a letter to see a list of topics beginning with that letter. A click on each topic gives you a handful of prescient quotes on the subject, to be used to jazz up a document or drive home a point.

Correct Letters is the most interactive of the three. It features a generic guide to letter writing, then groups letter templates into eleven categories with several subtopics for each. To use a specific letter, you open it in any Windows word processor and fill in the specifics: name, address, or other details. There may not be a lot of life or personality in these examples, but that's easy enough to add.

None of these programs are on the level of a spell checker or thesaurus, which are essential tools for every self-respecting writer. Instead, their focus is to allow the user to do a specific task well and have the tools to do so in the next window. It's a nice cooperative effort. ToolBook's visual structure made the process possible; WordStar's imagination allowed them to translate common reference works into a useable platform.

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*Charles Bermant is a freelance writer based in Scotts Mills, Oreg. He is co-author of **101 Windows Tips + Tricks**, now available from Peach Pit Press. He can be reached through MCI Mail as "cbermant."*

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CALENDAR

Meeting times and locations may change at the last minute; call first for confirmation.

We welcome notices of upcoming events for our Calendar. Notices must be received in written form by the second Friday of the month prior to publication. Please mail information to: Calendar, Boston ***Computer Currents****, 4 Chrysler Road, Natick, MA 01760. Or send your notice via MCI Mail to "MZIENTARA." Or fax to 617/593-2682.*

Please Note: Boston Computer Society (BCS) listings are courtesy of the BCS. BCS events are for members only; non-members are invited to attend one meeting before joining the Society. BCS headquarters are at One Kendall Square, Cambridge, MA 02139. Telephone 617/252-0600.

July 6

NetWare for Mac Connectivity

A two-day (July 6-7) hands-on seminar presented by Computer Tutor/PPI at its Newton training center, Three Newton Executive Park, Newton Lower Falls, Mass. Fee: $695. Call 617/964-5858 or 800/649-1449.

July 7

Effective Skills for Technical Managers

A four-day (July 7-10) seminar offered by Learning Group International (Los Angeles). Offers practical skills and tools needed to lead effective teams of technical professionals. To be held in Boston. Fee: $1,895. Call 800/421-8166.

July 9

BCS Business: Marketing

"Database Marketing: How It Will Make You Rich." Bill Davis, president of Holland Mark Martin, presents database marketing, or the art of delivering the right message to the right people at the right time. Using case studies, Davis explains the role of technology, and how to use database marketing techniques to make you rich. 7 p.m., 128 Entrepreneurs' Center, 200 Fifth Avenue, Waltham, Mass. Call Fred Bolland at 508/443-7293.

BCS IBM: Windows

Attitash Software presents information management applications for Windows, including text retrieval, file management, program launching, and disk file analysis. 6:30 p.m., Aquinas College, 15 Walnut Park, Newton, Mass. Call Jim Weiler at 617/648-1768.

July 13

Summer Computer Institute

For Macintosh and PC users. Getting Started: July 13-17. Business Solutions: July 20-24. Desktop Publishing: July 27-31. Desktop Illustration; August 3-7. Call the BCS Office at 617/252-0600 for a brochure. Intensive in-depth classes sponsored by BCS. Fee: $600/course. Held at Lasell Junior College, 1844 Commonwealth Avenue, Newton, Mass. Call Sue Wood at 617/641-2848.

BCS Digital

"Getting Help for DEC." Learn about the Digital Center for DEC and IBM hardware and service problems, and how to get repairs and technical help. 7:15 p.m., Digital Equipment Corp., Waltham Sales Office, Boole Conference Room, 235 Wyman Street, Waltham, Mass. Call Paul Babcock at 617/337-2453.

July 14

BCS OS/2

"OS/2 Communications — Theory and Practice." A live demonstration of cc:Mail for OS/2 (showing the Workplace Shell) integrated with Lotus Notes. 7 p.m., IBM Boston Computer Center, One Copley Place, Boston. Call Marcia Gulesian at 508/369-3918.

Unix Workshop

Four-day (July 14-17) seminar provides a hands-on introduction to the full range of Unix services and utilities.

EVENT SPOTLIGHT

BCS Networking Features The Whole Earth 'Lectronic Link

Maria Syndicus, Mike Godwin, and Gerard van der Leon will explain The WELL (Whole Earth 'Lectronic Link) online service and how its community atmosphere differs from other online services. Sponsored by the Boston Computer Society's networking special interest group and held at 7 p.m. on July 9, the meeting will take place at MIT Building E51, Room 140, 50 Wadsworth Street, Cambridge, Mass. Call Bill Chosiad for more information at 617/221-2439.

CALENDAR

It covers Unix System V as well as popular features of Berkeley BSD and Xenix. Sponsored by The Learning Group International (Los Angeles, Calif.) and held in Boston. The fee is $1,895. Call 800/421-8166 for registration information.

July 15

BCS Desktop Publishing

"PFS:Publisher — A Star Is Born." Sherry Sandberg, product manager for PFS:Publisher, gives the story behind the product. In a joint meeting with the BCS Training & Documentation Group, we learn how Spinnaker Software (which acquired the PFS: line from Software Publishing) created and developed this low-cost desktop publishing program aimed at beginners. 7 p.m., MIT Building E51, Room 144, 50 Wadsworth Street, Cambridge, Mass. Call David Field for more information at 508/346-9401.

July 16

BCS IBM: Q&A

"Symantec Discusses Q&A." Norman Wunuk, from Symantec Corp., discusses Q&A. Besides presenting the market position and user support procedures, he explains the custom features of the product. 7 p.m., The IBM Group Office, 188 Needham Street, Suite 230, Newton, Mass. Call Deborah Burkholder at 617/935-4337.

July 20

Managing the Migration to Client-Server Architectures

A three-day (July 20-22) seminar presented by Technology Transfer Institute (Santa Monica, Calif.). To be held at the Hyatt Regency Cambridge (Mass.). Fee: $1,195. For further details, call 310/394-8305.

July 21

BCS Hypermedia/Optical Disk Publishing

"Sony's Optical Media." Les Inanchy, from Sony, presents a view of current and future optical media markets and products. Learn about trends in drive types, performance and industry standards for CD-ROMs, and digital full-motion video. 7 p.m., MIT Building E51, Room 329, 50 Wadsworth Street, Cambridge, Mass. Call Greg Whalen at 508/465-9632.

July 27

Managing Enterprise Networks Conference

A two-day (July 27-28) conference sponsored by Digital Consulting, Inc. (Andover, Mass.), to cover the newest developments and strategies for managing LANs, WANs and internetworks. To be held at the Boston Sheraton, 39 Dalton Street, Prudential Tower, Boston. Fee: $895. Call 508/470-3880.

July 28

BCS Business

"EDI: Lessons Learned." Regardless of your current industry, sooner or later you will be involved with Electronic Data Interchange (EDI). Norman Barber, president of Cornerstone (Framingham, Mass.), a consulting firm, reveals "Steps for Success with EDI." 7:30 p.m., 128 Entrepreneurs' Center, 200 Fifth Avenue, Waltham, Mass. Call Dennis Noonan at 617/237-1483.

July 30

Color Connections 4

A three-day (July 30-August 1) conference presented by Graphic Communications Association and Davis, Inc. New color processes and technologies discussed. To be held at The Boston Cambridge Marriott, Cambridge, Mass. Fee: $625. Call 703/519-8162.

August 3

BCS Worcester Chapter: IBM PC

"Viruses & Worms." Everything you ever wanted to know about the insidious threat of viruses and worms. 7 p.m., Clark University, Higgins Building, 950 Main Street, Worcester, Mass. Call Elaine Baskin at 508/755-2904.

August 4

Macworld Expo/Boston

A four-day (August 4-7) conference presented by Mitch Hall Associates (Dedham, Mass.) featuring product exhibits from more than 400 companies and a program of intensive seminars. To be held at Boston's World Trade Center and Bayside Exposition Center. Fees: Conference & Exhibits, $90 cash only at the door; Exhibits only, $30 cash only at the door. Call 617/361-3941 for recorded information.

EVENT SPOTLIGHT

Windows & OS/2 Conference

CM Ventures presents the three-day (August 19-21) Windows & OS/2 Conference, to be held at Boston's World Trade Center. The event includes over 35 conference sessions, 16 fast track seminars to get you up and running, full-day pre-conference tutorials on August 18 by leading experts, and demonstrations of the latest GUI software and hardware by 200 top exhibitors. Admission to the exhibit only is free if you preregister by July 17, otherwise it is $30 cash at the door. The full conference is $595, or $790 with pre-conference tutorial. Call 800/466-2684 for more information.

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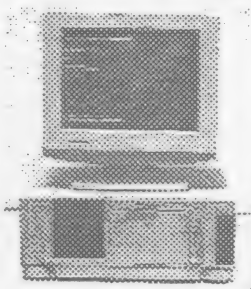

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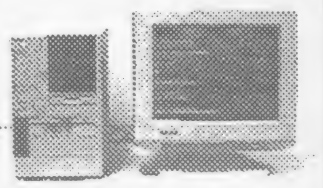

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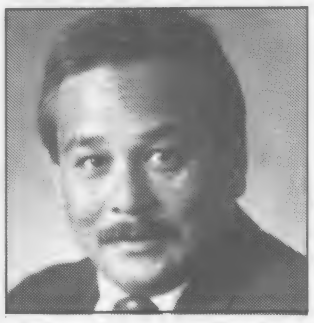

By Tim Bajarin

IBM's New Streamlined PC Strategy

I had a déjà vu experience recently when I flew to New York City to attend the first major industry briefing of IBM's recently formed Personal Systems Division.

I have followed IBM from the first day they entered the world of personal computing. In fact, since 1983, I have actually worked as a consultant to many divisions within IBM, including the original PC group that Don Estridge and Bill Lowe formed in the early 1980s.

I call those the good old days since that was the time when a maverick group within IBM dared to suggest to IBM's top management that they should enter the PC market. This was also the time when most IBM executives laughed this idea off and said the PC was only a toy.

It was a joy to be around Estridge and his team back then since they were all working together as a small group inside this giant of a company, and making things happen. And, they were excited about what they were doing. Ironically, IBM's top management was not too thrilled with this idea, but they agreed to let Estridge and Lowe take a shot at making a PC, and as they say, the rest is history.

What made this group so unique was the fact that they were allowed to make many decisions about their proposed system on their own, and although they had to get final approvals from the top, they were responsive and nimble to what they perceived the market wanted and set about delivering it to them. That initial group had forecasted that during the entire life of the IBM PC, they would only sell 250,000 units.

When they sold that much in the first three months of the product's existence, they knew they had something big on their hands. While Estridge was hailed as a genius and was allowed to work almost unrestrained for the first two years, it was only a matter of time before IBM's big brass stepped in and tried to institutionalize this product and the division behind it.

I often flew back to Boca Raton, Fla., the Entry Systems Division's headquarters back then, to attend various meetings on new product plans and channel strategies. My work allowed me to rub elbows with most of ESD's movers and shakers and, in fact, I was really in awe of this group's guts and determination. They had seen the future and were trying to get the big guys in IBM to follow their lead. I feel to this day a real affinity with Don Estridge since I had seen him the morning he was killed back in 1986 in an awful plane crash in Dallas.

Bureaucracy Creeps In

By the time of Estridge's death, the heart and soul was already gone at the PC division. Estridge had been moved up to New York and Bill Lowe had been brought back to keep things running. From around 1986 to about 1989, IBM seemed to be running on autopilot. They were running the PC division like a very structured business unit. The bureaucracy had crept into this division and sapped much of the life out of it.

They made decisions by committee and people were working together on single projects out of five or six sites, making it very difficult to get anything done. Consequently, morale was down, and productivity was very low, even though they were growing the PC business marginally.

Then, in 1989, IBM promoted Jim Cannavino to the general manager of the PC division, and the PC group began to turn some very important corners. Cannavino is actually a folk hero inside IBM as he is the only one to reach IBM's top echelon of management without a college degree. He started out in 1962 as a field service rep, and has worked his way to the top.

The "New" IBM

Although Cannavino brought some new blood, raw enthusiasm and fresh ideas to the division, he was strapped with business as usual since they still wanted the group to be run via IBM's traditional bureaucratic approach. Then, in mid 1991, IBM got a wake-up call that has changed things for Cannavino and IBM as a whole, the result being what they call the "new IBM." With their first serious revenue decline in the works, IBM started shaking things up at the top. The net result for Cannavino was that his group was allowed to become a separate business unit, with its own profit and loss responsibilities and the flexibility to get things done on its own.

IBM's focus will be to deliver the technology that is necessary to give the user complete systems for collaborative computing.

When I arrived in New York for this briefing, I found the people in the Personal Systems Division excited, focused, and anxious to create new computers for all types of computing needs. I felt the same way I did in the early days of the PCs when I worked with the original team. This group is actually happy to be doing what they are doing and they are all very committed to Cannavino and the vision of making PCs an important part of the way people work, learn and even play in the future. Sure they still wear white shirts and have a serious profit motive behind their efforts, but they are an entrepreneurial team and it shows.

The briefing itself dealt with their new goals and visions. As a new business unit, they are working hard to keep costs down and protect margins. They have told IBM corporate that the "franchise fee," or what the unit pays IBM just to be a part of the company, is too high and is trying to get that number down from 5% to 4%. They have divided up the company into three major units. One is responsible for PCs, one has advanced workstations, and the other is responsible for software.

Revamped R&D and Distribution

They are beefing up their research and development efforts and are working closely with their world-class development labs to create breakthrough products that will give them more value-added systems. An example they showed us was their new 1.8-inch disk drive that is in the PCMCIA format (the size of a credit card), yet holds 40 megabytes of data. They are creating faster chips and plan to have systems on the desktop in the 100 MIPS range by 1994.

Their focus is the customer and they want the customer to be able to buy an IBM-brand PC anywhere they wish. So, they have introduced an 800 direct selling program, as well as an 800 help line. While distribution in the past was relegated to corporate sales persons and traditional computer dealers, they now sell IBM PCs in mass merchandisers like Sears, Montgomery Wards, and superstores. The low-end PS/1 line is sold via the mass-marketers and their direct-marketing programs, while top-end PS/2s stay with the dealers.

The focus for the company in the next two years will be to deliver the technology that is necessary to give the user complete systems for collaborative computing. Personal Systems officials stated that they believe the market is almost ready for this shift from personal computing to collaborative computing, and they want to lead the way. They are working on point-to-point video conferencing and plan to release what they call video servers sometime next year.

While all of this talk seems to be on target, Cannavino admitted that he had until the end of this year to turn the division around and make it more profitable. If IBM's corporate management leaves him alone, I believe that he finally has the right business model to get this important PC division back on track.

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Tim Bajarin is President of Creative Strategies Research International, a market research and consulting firm. Correspondence may be sent to him at CSRI, 4655 Old Ironsides Drive Suite 490, Santa Clara, CA, 95054.

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OPTIMA 144 Data + Fax Modem

Hayes Microcomputer Products (Atlanta, Ga.) has announced Hayes OPTIMA 144 + FAX 144, a data/fax modem that supports CCITT V.32bis and V.42bis for data throughput of up to 57,600 bits per second and Group 3 fax standard V.17 for 14,400 bits per second.

Hayes OPTIMA 144 + FAX 144, available for a suggested retail price of $519, comes bundled with free Smartcom FAX communications software and Smartcom EZ data communications software. Smartcom FAX is a terminate-and-stay-resident program that allows users to fax documents directly from their computers, as well as receive fax messages and then view, rotate, flip, print, or save to disk.

Hayes also announced the OPTIMA 144, a cost-effective, high-speed data modem designed for users whose applications do not require fax communications. OPTIMA 144 comes packaged with free Smartcom EZ communications software for a suggested retail price of $479.

All OPTIMA products carry a two-year limited performance warranty, according to the company; Hayes' customer service number is 404/441-1617.

Software Posts Financial Data

Zypcom's latest computer program is PostAll, a financial package for the posting of sales, cash receipts, payables, checks, vouchers, etc. It does all this from one simple, easily-understood menu designed for the non-financially oriented individual, according to the Boise, Idaho-based company.

After entering basic information, the user can give the data to his accountant or make the distributions himself and use this data for further posting to the general ledger.

PostAll will calculate monthly and year-to-date distributions from either the user's personally developed chart of accounts or from the chart provided with the program, the company said. Each entry may be distributed to as many as nine different accounts, and the data is easily reviewed and corrected. Other features include escape back to the main menu at any time, automatic bracketing of negative numbers for easy recognition, no limit on the number of entries allowed, and password protection.

System requirements are any IBM PC or compatible computer with 256K RAM and DOS 3.20 or later or Windows. PostAll's suggested retail price is $49.95 which includes a booklet entitled *Understanding Accrual Accounting*. Zypcom can be reached at 800/344-6458.

Coda Ships MusicProse

Coda Music Software (Minneapolis, Minn.) has begun shipping its MusicProse music notation program for Windows with a $249 suggested retail price.

MusicProse's powerful notation engine allows musicians to use a personal computer to enter, edit, play back and publish everything from simple lead sheets to full orchestrations using standard notation methods.

For more information, call 800/843-2066.

PROCOMM PLUS for Windows

Datastorm Technologies (Columbia, Mo.) has announced PROCOMM PLUS for Windows, a Windows version of the popular communications software.

The Windows version includes 34 popular terminal emulations and 11 error-correcting file transfer protocols including Z-modem. Also included is an Action Bar for easy access to program features, a fully automated dialing directory, Windows ASPECT, a script language, support for Dynamic Data Exchange, File Clipboard, a graphical dialog box editor, keyboard remapping and a GIF utility for viewing graphics files as you download them.

The introductory suggested retail price is $149. Current users of the DOS version of PROCOMM PLUS can purchase the Windows version for $69 by calling 800/326-4999.

For more information, call 314/443-3282.

Pocket Print Server Turns Parallel Printers Into Network Printers

Extended Systems (Boise, Idaho) is releasing two new additions to its Pocket Print Server network connectivity product line. Pocket Print Servers install on the parallel port of any printer. The printer can then be attached to a Novell network, anywhere on the network. The original Pocket Print Server supports 10Base-T Ethernet connections. The new models support 10Base-2 Ethernet and 9-pin token ring connections. Novell NetWare 2.15 or later and NetWare 386 are supported.

On token ring Novell networks, the Pocket Print Server token ring adapter allows PCL and PostScript files to be printed on the same printer without requiring the user to send software commands, soft fonts and macros with every print job. The Pocket Print Server determines whether an incoming print job is PostScript or PCL and configures the printer on the fly, according to the company. When the printer language switches, soft fonts are reloaded to the printer automatically.

The Pocket Print Server 10Base-T and 10Base-2 models are each suggested retail priced at $495, and the token ring model retails for $995. Call 800/235-7576 for further details.

Novell Intros NetWare-Ready DR-DOS LANPacks

Novell's Desktop Systems Group (Provo, Utah) announces DR-DOS LANPacks for Novell NetWare users. The LANPacks provide remote installation and configuration from the server, complete NetWare workstation tools for DOS and Windows and 100-percent Windows compatibility, the company said.

The "NetWare-ready" DR-DOS LANPack includes the NetWare workstation kits for DOS/Windows. It supports Windows 3.0 and 3.1 and includes advanced versions of the NetWare client shell and SPX/IPX drivers, extended and expanded memory shell options, burst-mode protocol that improves network performance, and new Windows workstation tools and enhanced network installation programs for Windows users.

DR-DOS LANPacks are available in 5-, 10-, 20-, 50-, 100- and 250-user versions. Suggested retail prices range from $445 for the 5-user version to $1,395 for the 20-user version to $9,995 for the 250-user version. Call 800/453-1267 for more information.

Broderbund Expands Kid Pix Educational Game Line

Broderbund (Novato, Calif.) is expanding its line of award-winning children's drawing programs known as Kid Pix. The company has introduced a Windows-based version of Kid Pix, as well as started a new series of Kid Pix Companion programs with the introduction of a Macintosh version.

The Windows version of Kid Pix incorporates all of the features of the original Kid Pix that garnered it awards from some of the most distinguished educational bodies in the nation, including the 1991 Parents' Choice Award. The latest award is the 1992 High/Scope Award given out by the High/Scope Educational Research Foundation.

Kid Pix Companion is a follow-up module to Kid Pix. At this time, only the Macintosh version is being introduced although the company is planning on DOS and Windows versions in the future.

Kid Pix Companion adds more Rubber Stamps for the child's enjoyment as well as more hidden pictures. It also adds such features as DrawMe, ColorMe, and SlideShow. With DrawMe the program talks to the child, prompting him to draw a wacky scene. ColorMe is a computerized version of a coloring book. The SlideShow allows children to create complete stories right down to incorporating an audio track.

Kid Pix Companion is retailing for $39.95. No official word has been received on when the DOS and Windows versions will come out. However, August is the company's target date for the DOS version. Kid Pix for Windows retails for $59.95. Both products are shipping now and can be obtained by calling 415/382-4400.

— Naor Wallach, Newsbytes

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By Tony Bové

Finally, Two State-of-the-Art Mac Fax/Modems

Faxing documents directly from your computer saves time, helps eliminate paper waste, and produces a better-quality fax. Receiving faxes, on the other hand, has been problematic. We struggled with the AppleFax modem and software for over a year, then Apple eventually dropped the product. There were a considerable number of hardware bugs related to receiving faxes. But the AppleFax modem will not be missed because third-party vendors have rushed in to fill the void with excellent full-fax products.

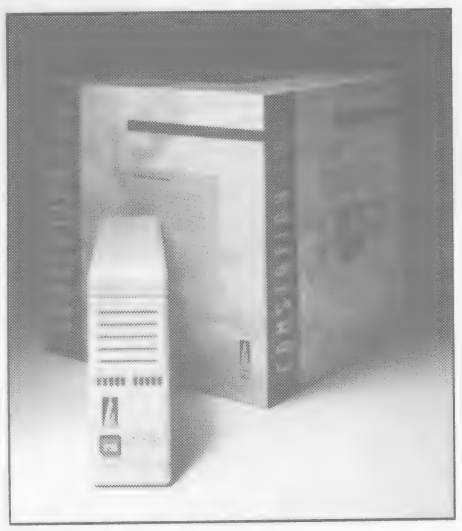
The Mac's graphical interface is a natural for fax operations. Windows 3.1 users who are enamored with TrueType fonts are espousing the wonderful new capabilities of faxing electronic documents directly from applications. This capability has been a fixture of the Mac platform for at least three years; fax *reception* just didn't work properly until third-party vendors got into the act with new fax modems.

Right before dropping the AppleFax modem, Apple was recommending that users try the BackFax software (version 1.2) from Solutions Inc. with the AppleFax modem instead of the AppleFax software. I tried this approach and was distressed to find out that BackFax was inadequate to the task. I should have known that the company that brought us the AppleFax modem would not know the difference between good and bad fax software.

Tangled Up in Glue

BackFax was developed by Solutions Inc., which is no longer in business. This company had brought us Glue and SuperGlue Software, which provided the capability to create an electronic version of a paper document and ship that document to another user who could view and print the document without having the original application. Great stuff at the time, but now, in the age of Type 1 and TrueType fonts, PostScript graphics, TIFF images, and so forth, Glue and SuperGlue are nearly obsolete.

BackFax was based on the Glue technology. In fact, BackFax solved one important problem — it could work in background mode for sending and receiving faxes. But it solved none of the other problems and introduced a few new problems of its own, such as receiving faxes that couldn't be displayed or printed. Nothing is more frustrating than waiting for an important fax, feeling better as you watch the system receive the fax, then discovering that the fax is unreadable and unprintable.



The PSI Comstation Two offers 2400-baud data transmission (with MNP 5 error correction) and 9600-baud fax transmission. It is designed to be easy to set up and use for fax sending and receiving.

Sending faxes was no picnic either. For example, I couldn't stop BackFax from rescheduling an unsuccessful transmission to be every five minutes unless I deleted it from the out box and set it up for sending again. Although I had the ability to access the address and times for sending the message, changes to this information had no effect. Besides, BackFax did not work properly with CD-ROM, some screen savers, Microsoft Word, Aldus FreeHand, and other programs. It couldn't properly fax a page that contained detailed PostScript line art saved in an Encapsulated PostScript (EPS) format.

Despite these limitations, I was quite ready to use BackFax rather than buy a real fax machine because I'm a believer. Until I encountered the manual. It was dense with text, but not especially helpful. It took some reading to find out that the Send icon and Send option performed two entirely different functions. To be fair, at that time no one had ever tried to describe an "easy-to-use" fax software product.

The Torture Finally Stopped

Faxing from a Mac is not new, but now it can be done with grace and dignity. I've tried several fax modems and fax software products, and two fax products stand out as superb: the TelePort/FullFax modem and software from Global Village ($399), and the Comstation Two ($399) from PSI Integration.

The TelePort/FullFax offers 9600-baud fax and 2400-baud data communications, with MNP Level 5 data compression and correction protocols. The fax modem is compatible with Group III fax machines.

TelePort/FullFax plugs into the Mac's ADB connector, freeing a serial port for other duties (a pass-through ADB connector is provided in case you have only one ADB connector). It is therefore powered directly by the Mac, requiring no power cord and line adapter like other modems. Besides this, the TelePort/FullFax also has two other distinct advantages over its competition: a built-in voice/fax switch which lets you use one phone line for both functions, and a unique "wake up" feature that can automatically power-up the Mac when the phone rings (so that you don't have to leave the Mac on all the time).

The TelePort software is easy to set up and use. A control panel device (CDEV) is provided to select various setup options for data and fax communication. A Chooser driver for sending faxes is also provided, which offers access to multiple address books while sending faxes from within applications. You can hold down the Option key while selecting Print from the File menu to send the next fax without changing drivers in the Chooser. With this shortcut, you can keep the printer selection and still fax something out (the program automatically re-selects

Product Info

TelePort/FullFax, $399
Global Village Communications
1204 O'Brien Drive
Menlo Park, CA 94025
415/329-0700

Comstation Two, $399
PSI Integration
851 East Hamilton Ave., Suite 200
Campbell, CA 95008
408/559-8544

Suggested retail prices.

the printer after the fax transmission).

The Fax Center desk accessory keeps track of faxes sent and received, so that you can view and/or print them. You can create cover sheets, export and import phone number lists ("address books"), and bundle faxes going to the same destination into one transmission. The desk accessory uses familiar Finder icons (folders, trash can) for drag-and-drop operations.

The TelePort software also places location-specific dialing information in the Phone Setup dialog box, rather than in each address book entry, so that you can move to other locations without having to change the phone numbers in your address book. (This means, of course, that you have to include the area code for all local fax numbers. The software compares the fax number's area code to the stored Setup area code, and if they match, it skips dialing the area code. When you move to another location, all you need to do is change the Setup area code.)

TelePort/FullFax offers extensive cover page design and text styling features. You can design the cover page form to have six fields that are filled automatically whenever you use the cover sheet, and you can modify the contents of any field before sending a fax.

TelePort/FullFax is, so far, the easiest computer-fax package I've ever used. It is also useful as a data modem, but the highest speed is only 2400 baud for data transmission.

The PSI Comstation Two also offers 2400-baud data transmission (with MNP 5) and 9600-baud fax transmission, and is easy to set up and use for fax sending and receiving. The fax software accompanying the Comstation (from STF) is excellent. A Chooser-level driver is provided for choosing fax output from an application, and you can use the same driver to change the modem settings, the cover page, and the software settings. (As with the TelePort modem, a Chooser shortcut key is provided for sending a single fax and returning to the original Chooser setting.) The FaxStatus desk accessory lets you monitor fax transmissions, and the QuickFax desk accessory lets you send a brief note (up to six lines or 255 characters) as part of a cover page or QuickFax form (a one-page fax).

The FaxManager application lets you schedule transmissions, edit the phone book, view or print the fax activity log, and view faxes before transmitting or printing them.

I particularly liked the option to set the fastest send and receive baud rates for faxes (if your line is noisy, the baud rate is reduced until reliable transmission can occur). However, the Comstation is too sensitive to activities such as picking up the handset (or an extension) and dialing out — the desk accessory appears saying the modem is trying to connect. I had to set the number of rings before answering to a number higher than one so that I could call out on the same line without activating fax reception. Even so, every time I call out on that line, the desk accessory pops up to say the phone is ringing.

Comstation Two vs. TelePort Full/Fax

The Comstation Two is a sturdy Hayes-compatible data modem that connects directly to the serial port. If you feel squeamish about the TelePort's modem redirection (even though it does let you connect something else to the serial port), and you have a serial port to spare for a modem, you can do worse than the PSI Comstations. The default state of the modem (MNP turned on) lets you log into services such as CompuServe without any problem, but I couldn't log into Prodigy as easily as with the TelePort (in which MNP can be turned off easily). The Comstation requires use of Hayes AT-style commands to turn off MNP, and the manual is more obscure about data modem settings than I ever thought possible for a Mac product.

Global Village's TelePort/FullFax plugs into the Mac's ADB connector, freeing a serial port for other duties (a pass-through ADB connector is provided in case you have only one ADB connector). It is therefore powered directly by the Mac, requiring no power cord and line adapter like other modems do.

If I had to choose which fax modem to recommend to a novice Mac user, I'd choose the TelePort/FullFax, which is not only easy to operate but also faster at viewing and printing received faxes. I'd recommend the Comstation only to someone who understands the intricacies of controlling a data modem from a terminal program. I am currently reviewing the Comstation Five and other modems for high-speed data transmissions, but I'll save those comments for another column.

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*Tony hates getting unsolicited faxes, so his fax number is unlisted. With his partner Cheryl Rhodes, he publishes and edits the **Bové & Rhodes Inside Report on Multimedia** and the **Macromedia User Journal**. For details, contact him on MCI Mail (TBOVE), CompuServe (70105,722), Prodigy (EXPT54B), or AppleLink (D0493), or by writing to Bové & Rhodes, Box 1289, Gualala, CA 95445.*

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MACUPDATE

DayMaker Travel Case For PowerBooks

Pastel Development Corp. (New York, N.Y.) has introduced the DayMaker Travel Case, which is designed specifically for the Macintosh PowerBook and bundled with DayMaker software.

The DayMaker Travel Case is made of durable, water repellant Dupont Nylon Cordura. The case offers an open front design, allowing easy use of the PowerBook without removing it from the case, and an open back design, which permits access to cable connections. Additional features include an adjustable padded shoulder strap, a locking zipper with keys, inside pockets for floppy disks, and an accessory pouch which can hold a power supply, external drive or battery.

DayMaker is a personal organization program combining scheduling, appointments, to-do lists, calendars, alarms, Gannt chart, addresses, phone numbers, categorization, and printing to personal organizer formats, according to the company. The bundle's suggested retail price is $149.95.

Pastel Development can be reached at 212/941-7500 for details.

Turn Your Type Into Art

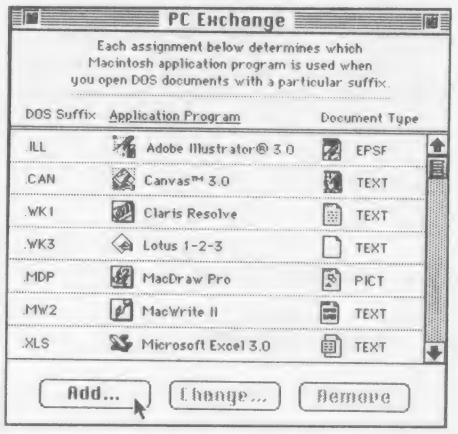
Letraset (Paramus, N.J.) has begun shipping LetraStudio 2.0, a major revision of their award-winning type manipulation program for the Macintosh. The new version offers increased speed, precise control over all Macintosh fonts, the import of line art, custom "envelope" libraries, and QuickDraw support, the company said.

LetraStudio 2.0 now supports PostScript Type 1 and Type 3, TrueType and Letraset's own digital typefaces. Users can add any fonts from third-party vendors and control such parameters as font type, size, rotation, kerning, letter spacing, tracking, character height and width, letter overlapping and alignment.

The software ships with a library of pre-defined envelopes and five baseline distortions allowing type to be scaled, skewed, rotated, flipped, slanted, warped, smeared, angled, inverted and twisted, the company said.

LetraStudio 2.0 is shipping at a suggested retail price of $249. Free upgrades are available to anyone who purchased LetraStudio after July 1, 1991. For customers who purchased LetraStudio before that date, the upgrade is $49. For further information, call 800/526-9073.

PC Exchange & QuickTime Starter Kit



Two new System 7 software products have been released by Apple (Cupertino, Calif.): the Macintosh PC Exchange which allows PC files to be manipulated and PC disks to be formatted on the Macintosh, and the QuickTime Starter Kit to offer help to new users in working with sound, video, and animation.

Apple says the Macintosh PC Exchange product allows Macintosh System 7 users with a SuperDrive 3 1/2-inch floppy disk drive to read, write, and format PC-compatible disks. Apple says files on the PC-compatible disk appear on the Macintosh as standard Macintosh documents. The files can be opened, saved, renamed, moved, copied or deleted just as with any Macintosh document, Apple maintains.

The QuickTime Starter Kit contains four utilities and a compact disc read-only memory (CD-ROM) containing clip content material for use with QuickTime.

The utilities included in the Starter Kit are Movieplayer for playing QuickTime movies, Picture Compressor to compress still images to a fraction of their original size, Movie Converter for the conversion of existing content into movies, and Movie Recorder that requires a video digitizer card to capture video movies.

Quickclips, the CD-ROM included in the Starter Kit, contains over 400 megabytes of clip video, animation, and still images.

Retail price for Macintosh PC Exchange is $79 while the QuickTime Starter Kit is for $16, Apple said. The company says it is also offering a year of toll-free support with either product. More product information is available by calling 800/776-2333.

— Linda Rohrbough, Newsbytes

Plug-And-Play Power Portrait Display

Sigma Designs (Fremont, Calif.) is shipping Power Portrait, a plug-and-play 15-inch display for Apple Computer's PowerBook notebooks and compact Macintosh computers.

Power Portrait is a SCSI-based display that plugs directly into the SCSI port of any compact Macintosh (Mac Plus, Classic, Classic II, SE, SE/30), PowerBook (100, 140, 170), or Macintosh-compatible portable computer.

Unlike other alternatives on the market for these computers, the Power Portrait video card is built directly into the monitor housing and includes built-in QuickDraw acceleration, according to the company.

The Power Portrait is available in two colors to exactly match the Mac PowerBooks and compact Macs. The "platinum" model matches the compact Macintosh computers and has a suggested retail price of $995 which includes the DB-25 to DB-25 cable. The "granite" model matches the PowerBook computers and lists for $1,095, which includes the HDI-30 to DB-25 SCSI cable. The optional anti-glare, anti-static coating is $50. Sigma can be reached at 800/845-8086 for more information.

Headline Harry

Davidson and Associates (Torrance, Calif.) introduces the Macintosh version of Headline Harry and the Great Paper Race, a game that teaches the player about recent U.S. history and geography. In the game, you represent a reporter who is trying to get to the bottom of important stories before your competitors from the Diabolical Daily publish a completely wrong and inaccurate story of their own.

To get your stories you must travel within the U.S. and collect clues. Some of the clues take the form of Macintosh QuickTime movies and represent real news footage. So, for instance, a clip is shown of Martin Luther King Jr.'s "I have a dream" speech.

The Macintosh version runs only on Macintoshes that support color and comes on eight double-sided diskettes.

The new Macintosh version is shipping now. Both the Macintosh and the MS-DOS versions retail for $59.95. Call 310/793-0600 for more information.

— Naor Wallach, Newsbytes

World History Adventure Game

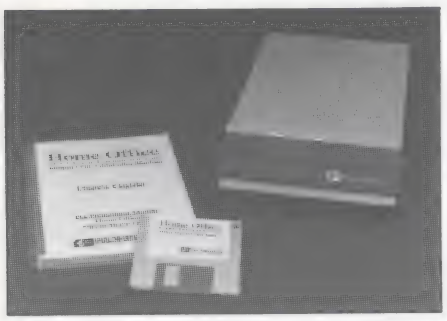
Earthquest (Palo Alto, Calif.) has introduced Time Treks, a world history adventure game described as a battle of wits over the future of history.

Players use their imagination, knowledge of history and investigative skills to survive, employing strategy and quick thinking to deal with time machines, booby traps and secret passages. The game is designed for ages nine to adult.

The built-in historical archives make Time Treks unique among educational games by providing instant access to a wealth of information, the company says. Users can explore thousands of historical facts, 180 timelines and hundreds of time-related views of science, communication, wars, empires, continent maps, explorers and religions.

An Educator version of the software retails for $59.95, while the consumer version retails for $59.95. A Lab Pack of five sells for $269.95. For more information, call 415/321-5838.

Ultima Home Office For Mac



Prometheus Products (Tualatin, Oreg.) offers the Ultima Home Office for Macintosh, a communications center that provides voice-mail, data modem and desktop fax capabilities.

The Ultima Home Office for Macintosh incorporates a high-speed V.32bis modem that can transmit up to 14,400 bits per second. The Hayes-compatible unit also includes MNP 5 and V.42bis error correction and data compression for throughput up to 57,600 bits per second.

The unit offers full voice-mail capabilities, the company said, including the ability to review, delete, save, skip or forward past individual messages. Users can create up to 999 mailboxes with unique greetings so that messages can be left for specific individuals.

Ultima Home Office for Macintosh is available for a suggested list price of $649. Call 800/477-3473 for more information.

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03 ☐ Manufacturing other
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05 ☐ Transportation
06 ☐ Communications
07 ☐ Utilities
08 ☐ Computer related retailer
09 ☐ Non-computer related retailer
10 ☐ Finance, banking, insurance
11 ☐ Real estate
12 ☐ Health, medical service
13 ☐ Legal
14 ☐ Education
15 ☐ Data processing, computer service
16 ☐ Government
17 ☐ Consultant
18 ☐ Wholesale/Distributor
19 ☐ Research/Development
20 ☐ Engineering/Architecture
21 ☐ Other business services
22 ☐ Advertising
23 ☐ Sales/Marketing
24 ☐ Personnel Placement
25 ☐ Entertainment
26 ☐ Other *(please specify)* _____

22 Title *(check one only)*
01 ☐ Chairman/Pres./Owner/Partner
02 ☐ VP—All
03 ☐ Controller/Treasurer
04 ☐ Director
05 ☐ General Manager
06 ☐ Business Manager
07 ☐ Project Manager Chief/Group Leader
08 ☐ Prod./Merch. Manager
09 ☐ Manager/Supervisor not listed above
10 ☐ Data Base Administrator
11 ☐ Other Administrator
12 ☐ Physician
13 ☐ Accountant
14 ☐ Attorney
15 ☐ Consultant/Advisor
16 ☐ Bus. Microcomputer Specialist
17 ☐ Systems Analyst
18 ☐ Writer
19 ☐ Coordinator
20 ☐ Programmer
21 ☐ Engineer
22 ☐ Educator
23 ☐ Representative
24 ☐ Other (please specify) _____

25 Company Size (check one only)
A ☐ Under 10 employees
B ☐ 10-24
C ☐ 25-99
D ☐ 100-249
E ☐ 250-999
F ☐ 1000-2499
G ☐ 2500-4999
H ☐ Over 5000

26 Department (check one only)
01 ☐ Accounting
02 ☐ Administration Management
03 ☐ Communications
04 ☐ Consulting
05 ☐ EDP/MIS
06 ☐ Education/Training
07 ☐ Engineering
08 ☐ Finance
09 ☐ Marketing
10 ☐ Operations
11 ☐ Personnel
12 ☐ Production/Plant
13 ☐ Purchasing
14 ☐ Research & Development
15 ☐ Sales
16 ☐ Other *(please specify)* _____

Does your firm have personal computers?
☐ Yes: If yes, please indicate quantities below. Complete both columns.
☐ No

		34: Number currently owned:	35: Number plan to purchase within next 12 months:
A	PC (286) Compatible		
B	PC (386) Compatible		
C	PC (486) Compatible		
D	Notebook PC		
E	Macintosh Classic, or SE		
F	Macintosh LC		
G	Macintosh IIcx, IIsi, IIci		
H	Macintosh IIfx		
I	Macintosh Powerbook		
J	Amiga		
K	NeXT Workstation		
L	Sun SPARC system		
M	Other *(Please Specify)*		

30 Please estimate your department's budget for computer hardware, software and supplies for the next 12 months:
A ☐ Over $500,000
B ☐ 250,000 to 499,999
C ☐ 100,000 to 249,999
D ☐ 50,000 to 99,999
E ☐ 25,000 to 49,999
F ☐ 10,000 to 24,999
G ☐ Under 10,000

31 Through what channels will your department purchase its hardware software and supplies? *(Check as many as apply)*
A ☐ Computer Retail Store
B ☐ Distributor/Wholesaler
C ☐ Value Added Reseller
D ☐ Consultant
E ☐ Mail Order
F ☐ Manufacturer
G ☐ Other _____

In which of the following ways are you yourself involved with personal computers, accessories and supplies?
☐ Use them
☐ Recommend them
☐ Establish specifications
☐ Approve purchase
☐ Acquire them
☐ Evaluate or select suppliers
☐ Train people to use
☐ Sell them
☐ Develop or manufacture
☐ No involvement
☐ Other involvement *(please specify)* _____

32 For how many personal computers or microcomputer systems do you have this involvement? *(Check one only.)*
A ☐ 1-3
B ☐ 4-9
C ☐ 10-24
D ☐ 25-49
E ☐ 50-99
F ☐ 100 or more

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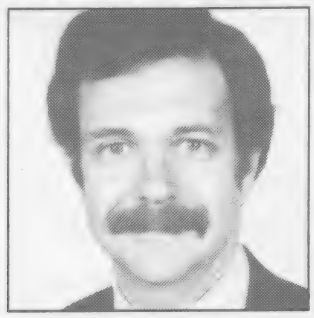

By Lawrence J. Magid

The Miracle Piano System

My PC is now equipped with two keyboards — one for words and numbers and another for music. The Miracle Piano Teaching System, from The Software Toolworks, turns an IBM-compatible PC into an electronic music school. I've never had any piano training but after several hours with the Miracle, I'm reading music and playing "Mary Had a Little Lamb" with two hands. I'm not about to land a job with an orchestra but I'm making progress and having fun.

The system consists of an electronic piano keyboard, software and a cable to connect the keyboard to the PC. There are also versions for the Macintosh, Nintendo, Super Nintendo and Commodore Amiga. (The Nintendo versions are not as advanced as the others and are priced accordingly.)

Installation is easy. You plug the cable into the PC's serial port and run the installation program. It copies the software to your hard disk (it requires about 1.7 megabytes) and automatically configures it to your hardware. The keyboard has a stereo amplifier and two built-in speakers, as well as jacks for headphones and an optional external amplifier. There is also a MIDI (musical instrument digital interface) connector that makes it possible to use the keyboard with other musical software if your PC is equipped with a MIDI adapter. MIDI is a standard system for connecting electronic instruments to computers and to each other.

The 49-key keyboard has full-sized piano keys and a sustain pedal that you operate with your foot. The keys are pressure-sensitive — the harder you press, the louder the sound. You can control the software with either the computer keyboard, a mouse or the Miracle keyboard's foot pedal.

You can also play the keyboard without the computer. It has switches that give you access to several instruments. Unlike some keyboards, there are no built-in rhythms or background sounds. Such sounds are available through the software when you're using the keyboard with the PC.

The program starts by asking your name so it can track your progress. The program can be used by others as well, making it suitable for a family, or any other group. Beginners are then given some basic introductory lessons. The program makes very good use of the PC's graphics. There are screens that show you proper posture and how to hold your hands. Others familiarize you with the keyboard layout, sheet music and other basics.

The Software Toolworks' Miracle Piano Teaching System turns a personal computer into an electronic music school.

The software has about 1,000 lessons divided into 40 "chapters." By the end of Chapter One, you're playing "Ode to Joy" with the right hand. Chapter Three covers playing with both hands. Much of the time, you're looking at sheet music. In some situations, a pointer shows you which notes to play. In some cases you're playing songs at your own pace, in others you're keeping up with the software's metronome.

The software is infinitely patient, but it's also firm. It requires you to replay lessons that aren't to its liking. After each lesson, you're given feedback about the keys you missed, your timing and other possible problems.

Most of the lessons use on-screen sheet music, but there are plenty of diversions. For example, when the program introduces new notes or fingering positions, it tests you with an arcade-type shooting gallery, where you use the piano keyboard to shoot ducks from a musical staff.

The program is based on a music school metaphor. You take your lessons in the "classroom." Other rooms include the "practice room," where you can practice any of the songs, and the "performance studio," where you play along with an optional background orchestra. There is also a "recording studio," where you can save your performances to disk. The "arcade" offers several learning games and a "jukebox" that plays songs that come with the program.

The program, according to Software Toolworks' spokesman Doug Mealy, offers the equivalent of between six months and a year of piano lessons. Unlike traditional lessons, students work completely at their own pace and schedule. The company doesn't currently offer an advanced course but it does sell additional song collections for $49.95 each. Each collection has 35-40 songs with a variety of levels of difficulty.

The system is designed for both children and adults, but it does require reading skills. It's entertaining and fun, but, as in any rigorous training program, its results will depend on the student's motivation and effort.

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Lawrence J. Magid is a nationally syndicated computer columnist and Silicon Valley-based analyst and writer.

Product Info

Miracle Piano Teaching System, $479.95
Mac version, $499.95
Nintendo version, $379.95
Super Nintendo version, $479.95
Amiga version, $479.95
The Software Toolworks
60 Leveroni Court
Novato, CA 94949
415/883-3000
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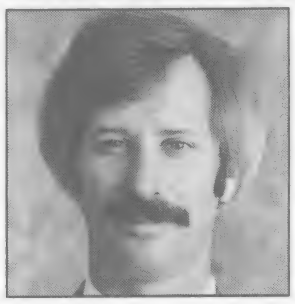
Suggested retail prices.

VIEWPOINT



By Mark Schultz

Online Services Need To Be Accountable

By this time all of us are aware of the many advantages of BBS and online services. The major online services (CompuServe, GEnie, Prodigy, and Delphi, among others) provide a host of services not easily found off-line. The original intent of these companies was to provide the user with a large range of information and shareware to enhance the power of the personal computer. Recently, the BBS segment has grown dramatically. Many are attracting users of specific machines, or those with certain interests or lifestyles. The major services and the BBSs also provide users with open forums that give users access to a free exchange of ideas or just plain old-fashioned conversation.

There is another, darker side to this story. As in every segment of our society, there are those who will take some of our best ideas and twist them in a way that no one ever intended. Such is the case in Lexington. Last December a 12-year-old boy was raped by a man he met through a BBS. Last spring, the same man met a 15-year-old boy from Malden through a BBS, raping him on two different occasions. The Malden boy had agreed to meet the man a second time, only after the rapist threatened to post a notice on the BBS that the boy was gay. This rapist has recently been sentenced to 20-30 years in prison.

Fortunately, these incidents are the exception, not the rule. However, the problems are growing. The online world is generally unregulated. Any group can put together a BBS. Some are run by hate groups to promote their warped view of the world and others should clearly be marked "for adults only." On some services rumors have been reported as fact, severely damaging people's lives and leaving no one liable. By taking advantage of shareware or freeware available on some services, your computer could become infected with the latest computer virus. This can start a chain reaction of problems, some of which can be very expensive if not impossible to repair.

The question of accountability becomes more relevant with each passing day. Who can or should be held responsible for problems arising through the use of an online service? Can the owners be held accountable for the actions of an independent user? What precautions can be taken by the owners of these services to protect the public from information received from the service? One possible solution is a form of self-regulation by responsible industry leaders. Guidelines could be set up by an association of online services. However, this is only a quick fix and leaves too many holes for unscrupulous operators to sneak through.

The need is for the owners of these services to join with our government officials to form a clear set of rules and penalties that will govern the use of these systems, protecting the users, without curtailing their freedoms. This is a tall order, one that calls for both imagination and common sense. No one wants to see the free exchange of ideas inhibited. However, there must be a way to protect the public from further victimization. This can be accomplished only with the full cooperation of both the industry and the government.

The time to act is now, otherwise the government may decide to act on its own, imposing excessive regulations. Until then, all users are advised to handle all online systems with care.

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Mark Schultz is Regional Ad Sales Manager for ***Computer Currents.***

USED COMPUTER PRICE INDEX

The Boston Computer Exchange

The secondary market was down in active trading with most models selling lower than last week on news of new releases from Zenith and Compaq. The big loser was Toshiba with three popular models off really big figures. The T-3200SXC was down $500 to close the week at $3,900 and the T-5200C was down $400 trading at $4,000. The T-1000LE lost $75 to close at $600 and the T-1600 was off $50 at $750. The volume leader of the week was the Macintosh SE/30 — what a charmer! They sell like hotcakes, demand is steady and the price was rock solid at $1,800 for the 80-megabyte drive model. Quadra 900s moved at $3,500 and the Mac IIsi traded in volume with an average 40-megabyte unit selling for $1,800. PowerBook 140s were steady at $2,000. IBM iron was also down with the PS/2 Model 70P off $300 at $2,450 and the Model 55SX off $100 to close the week at $1,100. Compaq's Portable 386 took a $200 hit and closed at $1,300.

The following prices are for the week ending June 5, 1992.

The BoCoEx Index Of Used Computer Prices

Machine	($)Close	($)Ask	($)Bid
IBM AT 339 30MB	500	700	250
IBM PS/2 Model 50Z 30MB	600	1100	325
IBM PS/2 Model 55SX 30MB	1100	1300	800
IBM PS/2 Model 60 40MB	600	900	325
IBM PS/2 Model 70 A211 20MB	2650	2800	1200
IBM PS/2 Model 70P 120MB	2450	3000	1500
Compaq Portable II 20MB	425	500	375
Compaq Portable III 20MB	550	650	250
Compaq Portable 386 100MB	1300	1800	1000
Compaq SLT/286 20MB	700	900	400
Compaq LTE/286 40MB	850	1000	500
Compaq Deskpro 286E 40MB	500	1000	325
Compaq Deskpro 386 30MB	900	1200	700
Zenith SupersPort/286 40MB	600	700	525
Zenith MastersPort/386SX 60MB	1500	1700	1000
Macintosh Classic 40MB	800	900	700
Macintosh SE 20MB	775	875	600
Macintosh SE/30 80MB	1800	1850	1300
Macintosh LC 40MB	1100	1500	900
Macintosh II 40MB	1825	1900	1300
Macintosh IIx 80MB	2700	3250	2000
Macintosh IIcx 80MB	2700	3000	2000
Macintosh IIci 80MB	3100	3600	2460
Macintosh IIfx 80MB	4100	4900	3700
Macintosh IIsi 40MB	1800	2300	1500
Macintosh Quadra 900 160MB	4500	4600	4400
Macintosh Portable 40MB	1050	1500	800
Macintosh Powerbook 100 40MB	900	1250	800
Macintosh Powerbook 140 40MB	2000	2500	1600
Apple ImageWriter II	225	350	100
Apple LaserWriter IINT	1600	1750	1200
HP LaserJet II	850	950	550
HP LaserJet III	1000	1200	900
Toshiba T-1000LE 20MB	600	700	500
Toshiba T-1200 XE 20MB	750	1000	550
Toshiba T-1600 20MB	800	850	600
Toshiba T-3100 SX 40MB	1575	1750	1500
Toshiba T-3200 40MB	1100	1500	500
Toshiba T-3200 SXC 120MB	900	4000	3300
Toshiba T-5100 40MB	1400	1700	900
Toshiba T-5200C 200MB	4000	4400	3800

BoCoEx Index prices are based on complete systems with keyboard, monochrome monitor and adapter, less the value of any software or peripherals. Boston Computer Exchange is available at 617/542-4414; Buyer's Hotline, 800/262-6399; Fax Yourself Information, 617/542-2345, extension 300.

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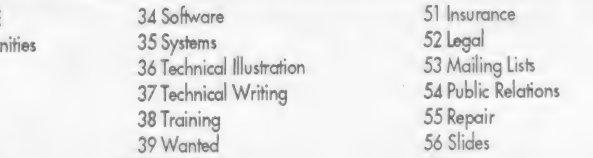

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Advertising Deadline For Next Issue, July 13, 1992 1pm

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5 Trade
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48 Disk Conversion
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55 Repair
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57 Testing
58 Wanted
59 Word Processing
60 DESKTOP PUBLISHING
61 Design Studios
62 Copy Centers
63 Optical Scanning
64 Plotting
65 Printing
66 Typography
67 Service Bureaus
68 VIDEO/ART

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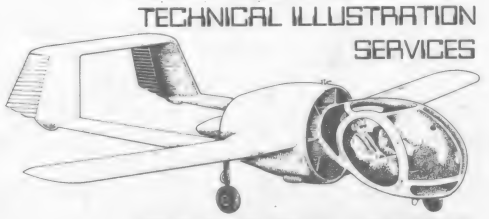

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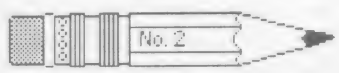

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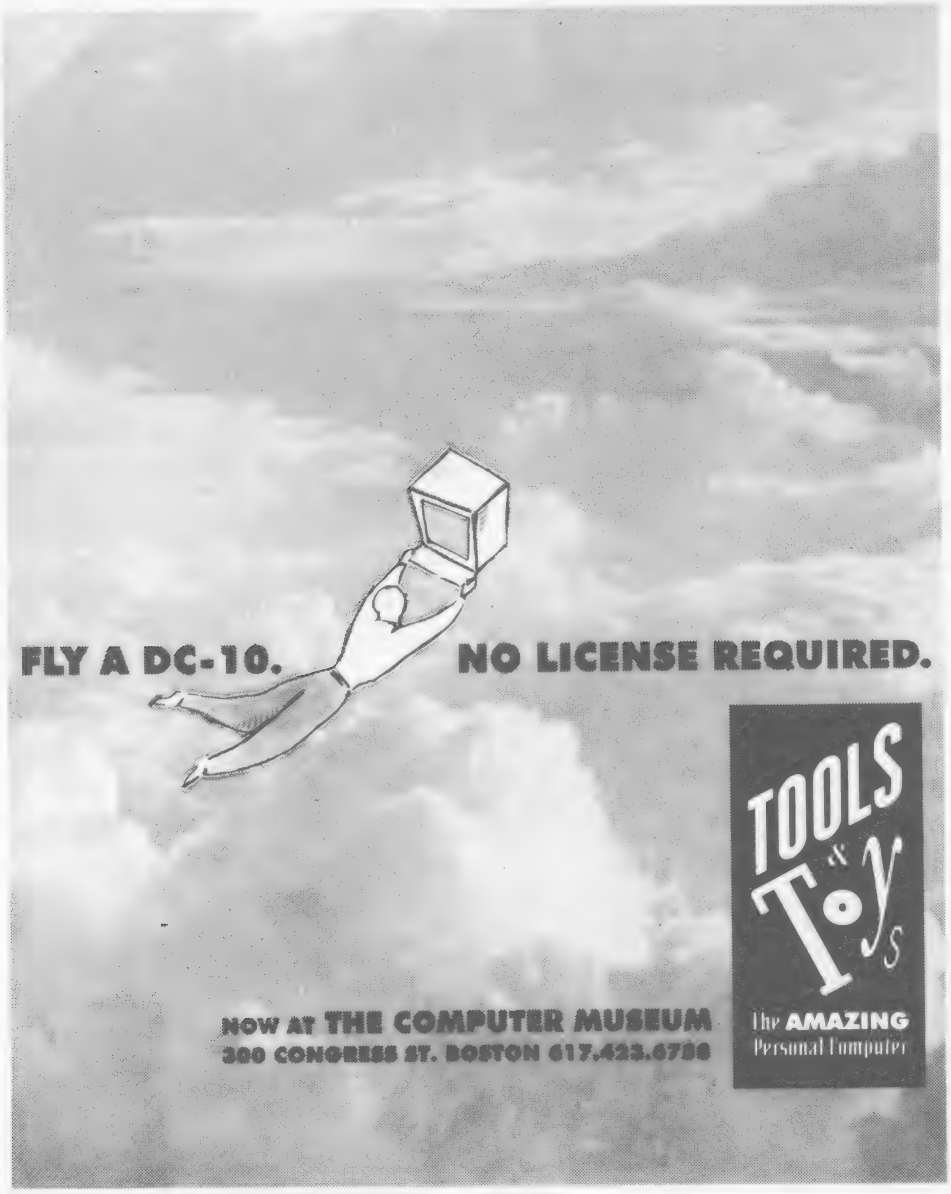

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In our next issue:

Windows at the Cutting Edge

With the release of the long-awaited Version 3.1, Windows software has improved in such key areas as ease of use, sophistication, and power. In this special report, a team of *Computer Currents* reviewers pick their choices for the most compelling, useful, state-of-the-art Windows products covering a range of applications. Windows 3.1 is red hot, and so is interest in the cutting edge software we'll be covering.

Publication Date: August, 1992

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By Lincoln Spector

Attack Of The Killer Insect

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& GOOFY GLITCHES
HONEY, DID YOU DEPOSIT $21,000,000,071.09 IN OUR ACCOUNT LAST MONTH?
OOPS
ACCORDING TO THIS, THE TRAVEL AGENCY BOOKED US ON A 7-DAY CRUISE LEAVING OMAHA.
SEE ZANY PROGRAMMERS TURN HI-TECH INTO HI-JINKS AS THEY KLUGE 'TILL THEY LOSE IN A BELT BUSTING SPAGHETTI CODE FEAST OF NUTTY NETWORKS, SILLY SOFTWARE AND HARDY-HAR-HARDWARE.

It all started when I printed my report. First of all, there were the fonts. I had prepared the report in Roman Centurion, but the printed page came out in New Century Hieroglyphics. Worse yet, every third sentence was replaced with one I hadn't typed: "Mairzie dotes and dozie dotes and little lamzie divey." This was one bug I hadn't seen before.

I could only assume that the fault was with my word processor, BrainSoft Writer for Windows. So naturally, I called BrainSoft's technical support line for help.

"Thank you for calling BrainSoft Technical Support," said the recording on the other end of the line. "If you have a problem with one of our DOS programs, press one on your touch-tone phone. If you have a problem with one of our Macintosh programs, press two. If you have a problem with one of our Windows programs, press three. If you have a problem telling them apart, press..." I pressed three.

"Thank you for calling BrainSoft Technical Support, Windows Division. If you need help with BrainSoft Accounting, press one. If you need help with BrainSoft Writer, press two. If you need help with BrainSoft BrainSurgery, press..." I pressed two.

"Thank you for calling BrainSoft Writer for Windows Technical Support. If your question is on installing BrainSoft Writer for Windows, press one. If your question is on printing from BrainSoft Writer for Windows, press two. If your question is on constructing well-written sentences..." I pressed two.

"Please wait. A support technician will be with you shortly." That was a surprise. I fully expected to be told to press three for "Mairzie dotes and dozie dotes and little lamzie divey" problems. Instead, after forty-three minutes of muzac regularly interrupted by BrainSoft commercials, a human being came on the line and asked me for my name, serial number, and problem.

"Hmm," he said after listening to my story, "no one's ever called us with that one. What other programs are you running?"

"Well," I said, trying to remember, "there's Windows, of course. Any conflicts you know of there?"

"Well, we tested BrainSoft Writer for Windows pretty thoroughly with Windows. What are you loading before Windows?"

"Not much," I replied. "The RamDam Memory Manager, Listerine Virus Catcher, MOUSE.COM."

"Just as I suspected; you've been loading software. Here's what you should do: Rename your AUTOEXEC.BAT and CONFIG.SYS to CEXEOTUA.TAB and GIFNOC.YSY. Then erase your copy of Windows and reinstall it from the original floppies — preferably those in Bill Gates' collection. Don't load anything other than Windows and BrainSoft Writer, and see if you still have the problem. If you do, try swapping out your hard disk, BIOS, and printer. That way, you can figure out what program or hardware is causing the problem, and call their technical support people."

It took three hours of experimentation, but I eventually determined that the problem came from a conflict with the RamDam memory manager. So I called Quackenbush Technologies, the company that puts out RamDam. "Thank you for calling Quackenbush Technologies Technical Support Services. Our office hours are ten to four-thirty, Monday through Friday, except Thursday, when our hours are open to interpretation." I checked the time; it was 4:28.

I called at 10:00 sharp the next morning. "Thank you for calling Quackenbush Technologies Technical Support Services. All of our support technicians are busy. If you would like to leave your name and phone number for eventual call back, press one. If you would like to wait on hold for five minutes, and then leave your name and phone number, press two. If you have all day, and enjoy listening to country and western music, press..." I opted for choice number one, and left my name and number.

By the time they called back, late the next week, I had a work-around routine pretty well down: I would do most of my work in my preferred configuration. When it came time to print, I would exit Windows, rewrite my CONFIG.SYS and AUTOEXEC.BAT, reboot, reload Windows, print, exit Windows, restore my original CONFIG.SYS and AUTOEXEC.BAT, reboot, and reload Windows. It wasn't ideal, but it worked.

As I said, Quackenbush eventually returned my call, and this time the technician had heard of my problem. "It's a conflict between 55FF and 68AE," she explained. "Try loading RamDam with the slash-off parameter."

"What does that do?" I asked.

"It disables RamDam's memory management capabilities."

That didn't seem like much of a solution. Wondering if BrainSoft had discovered anything since I had last talked to them — preferably something useful — I tried calling them again. After pressing all the appropriate buttons on my touch-tone phone, I was put on hold for another forty-minute wait.

I eventually got a human being, who again asked for my name, serial number, and problem. "Hmm," he said after listening to my story, "no one's ever called us with that one."

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Lincoln Spector is the author's real name, appearing on both his driver's license and his birth certificate. An associate editor at ***PC World****, Lincoln can be reached via MCI Mail as "LSPECTOR."*

Gigglebytes is a satirical column loosely based on computer industry events, trends and people. The opinions expressed in this column are the writer's and do not necessarily reflect those of *Computer Currents*.

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2. 486-33 comes in full-tower case with 250 watt UL power sypply.

- ***Free Gift : Each system special comes with both Windows 3.1, mouse and computer table.***

Bonus offer: Panasonic* KX-P2123 *$232.00,* KX-P2180 *$179.00 (with system purchase only)

SPECIAL ENDS 8/10/92

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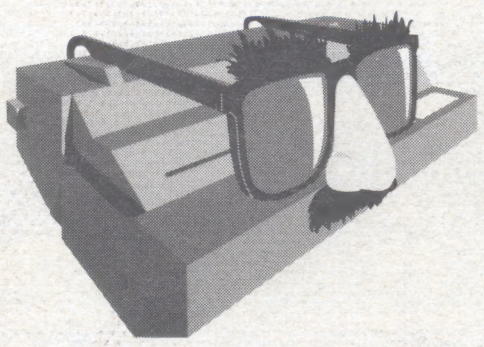
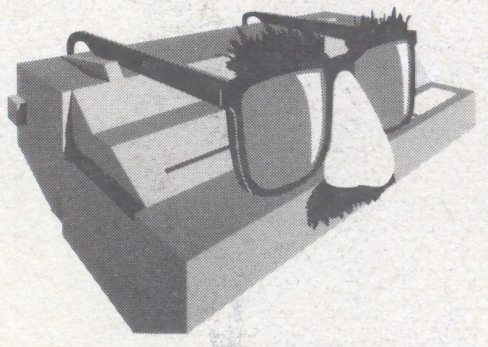
SOME CARTRIDGES ARE GOOD AT GIVING FALSE IMPRESSIONS.



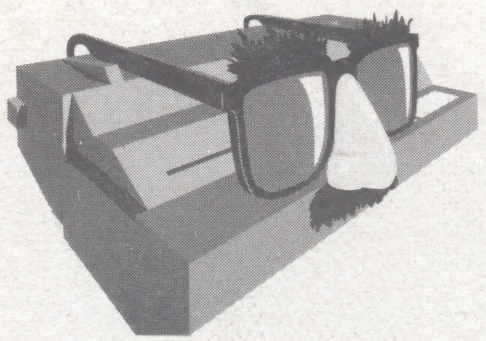
DRILL & FILL

An ill-conceived method that involves drilling holes in the toner cartridge. Contamination and failure to inspect and clean critical parts results in unhappy drill-and-fill customers.



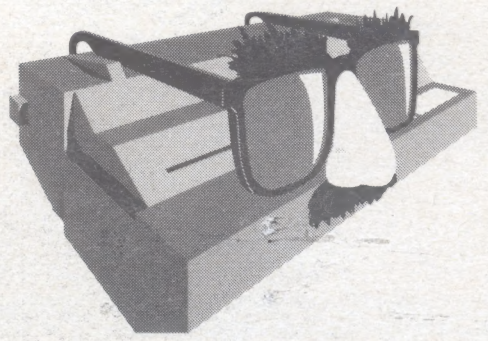
RECONDITIONERS

These cartridges get cleaned and toner is added but important parts may not be checked and replaced when necessary. Parts may wear out before the toner cartridge is empty resulting in a higher cost in materials and lost time to the customer.



REMANUFACTURERS

Worn parts may be replaced and a more effective cleaning process takes place, but in this process the customers usually get their own cartridge back. There can be a problem of contaminated toner cartridges.



DEALERS OR WHOLESALERS

Because a dealer who shops for price might buy any or all of these methods a customer may experience a difference in print quality and consistency from one cartridge to the next.

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